

Member Associated Business

Papers, Inc.

**The Newspaper
of the Industry**Member Audit Bureau
of Circulations.**AIR CONDITIONING AND
REFRIGERATION News**

Issued Every Monday at
450 W. Fort St., Detroit 26, Mich.
JULY 8, 1946
L 11 1946
MICHIGAN LIBRARY
DETROIT, No. 10, Serial No. 903
Established 1926.

Reentered as second-class matter October 3, 1936 at the post office at Detroit, Michigan, under the Act of March 3, 1879. Trade Mark Registered U. S. Patent Office. Copyright, 1946, by Business News Publishing Co.

INSIDE DOPE

by GEORGE F. TAUBENECK

Story of the Week
Another Truman Veto
Test of Our System
Inflation Busts Out All Over
Buying Power Should Equal Purchasing Power
Let's Check Up on Wage Raises Averages Don't Pay Off
It's Too Darned Complicated Are Business Men Nuts?
We Doubt It
Look, Mr. Truman

Story of the Week

It's a popular practice, in naming night clubs and cocktail lounges, to use the French prefix "Chez" (meaning "home of" or "house of"), as in Chez Paree, Chez Louise, and Chez Frontenac. (Chez is pronounced "shay.")

Last week a reporter for *Tide* found the most apt name of them all in Montreal. It is the "Chez When."

To make matters even better, the firm's slogan is "Slitkin and Slotkin (fabulous since 1921)."

Another Truman Veto

Again demonstrating how a minority is ruling the country, Truman's veto of the OPA bill makes it more evident than ever that he is beholden to the CIO. As in his veto of the Case bill, he ignored the will of the people as expressed through their Congress.

By so doing, he has ballanced things up "but good" this time. That compromise OPA-extension bill was no thing of beauty, but it did provide for a somewhat orderly de-control of government price-fixing. What will happen now is anybody's guess. Of two things you can be sure:

(1) Responsible business men, who realize that the free enterprise system is on trial, and that their own markets are at stake, will hold the prices of their goods as low as they are able.

(2) An irresponsible 10% will gouge the public as much as they can while they can, thus making it tough on the rest of us. Many landlords will be in this class, along with the "percentage boys" who were probably engaging in black market activities anyway.

Truman and the CIO are betting that the situation will play into their hands. Economic chaos will lead to worse controls and further socialization, which is exactly what they want.

It all depends on what happens in the next few months. If prices rise too fast before production begins to catch up with demand, political pressures may hit the boiling point. But discount talk of an organized buyers' strike. If effective, it would throw union men out of work.

Test of Our System

Removal of price controls will be regarded as a test of the free enterprise system. If industry provides enough production to keep prices at reasonable levels, its prestige will be enhanced. If it fails and prices go to high levels and remain there very long, it not only will insure a return of controls but it will pave the way for socialistic schemes.

That would be the best example the proponents of government management could wish. They would play up the failure of an uncontrolled economy to protect the consumer. The public then would have less confidence in private enterprise. It would be much easier for the planners to step in and say that Big Government must take over.

Some of the ardent proponents of free enterprise among public officials feel that business has taken an unnecessary risk in playing such an

Improved Cylinder Supply Will Aid 'Freon' Deliveries

WILMINGTON, Del.—Although Kinetic Chemicals, Inc., is now 25 days behind current orders on shipments of "Freon-12" in 145, 25, 10, and 4-lb. cylinders, officials of the company predict that by fall orders will be filled within 48 hours of receipt.

Lack of cylinders accounts for the present "shortage" of the refrigerant, according to Kinetic officials, who say that buying of "Freon-12" has been unusually heavy since the restrictions imposed by M-28 were dropped some time ago.

"Complete spare charges are the rule now in many locations and before the war it was customary to buy the refrigerant out of stock for fixing any system that had leaked," declared one Kinetic executive. "Orders from jobbers in the early spring season were extremely heavy and jobbers' warehouses contained a large amount of 'Freon-12.'

"The lack of cylinders for containing 'Freon-12' was predictable as early as March of this year, but there was nothing that could be done about it. The railroads of the

(Concluded on Page 17, Column 2)

**May Production
Of Refrigerators,
Appliances Up**

WASHINGTON, D. C.—May production of household refrigerators reached a new postwar high—196,000 units—a figure, however, which still falls far short of the prewar monthly average of 309,000, according to the latest report of the Civilian Production Administration.

The general production of durables in May, though, suffered a recession, declared CPA Administrator, John Small, who expects new gains to be shown in the June totals.

Slight gains in May over April were reported for washing machines, sewing machines, and radios. Vacuum cleaners showed a slight drop, while electric ranges remained at the 31,000 total registered in April.

April and May figures compiled by CPA compare with the prewar averages as follows:

	Prewar		
	April	May	Average
Domestic Mechanical Refrigerators	143,000	196,000	309,000
Washing Machines	177,000	184,000	158,000
Electric Ranges	31,000	31,000	47,000
Vacuum Cleaners	174,000	166,000	156,000
Sewing Machines	28,000	31,000	67,000
Domestic Radios	1,000,000	1,075,000	1,100,000

Price Set on G-E**4-Ft. Home Freezer**

BRIDGEPORT, Conn.—A maximum retail price of \$199.95 for General Electric Co.'s 4-cu. ft. home freezer was approved by OPA just prior to the agency's expiration.

Retail and other ceilings were established as follows in Order 660, MPR 591:

Model	On Sales to—			
	Dis-tributors	Serv-ing	Non-serv-ing	Con-sumers
NA-4, 4 cu. ft. ½ hp. condens-ing unit	\$112.00	\$134.96	\$144.96	\$199.95

The usual additions for freight and crating were authorized.

In view of General Electric's announcement that it intended to "hold the line" on prices, these freezer ceilings probably will be adhered to by the company.

Refrigeration, Air Conditioning, and Appliance Prices 'Hold the Line'; New Bill Still Restores Margins

WASHINGTON, D. C., July 5—The compromise OPA which reached the floor of the Senate today modified rather extensively previous provisions which would have guaranteed prewar profit levels to manufacturers and their field organizations, but it did keep intact the amendment which would kill the cost absorption which distributors and dealers in refrigerators and other major appliances have had to stand under OPA policies.

Here's how the various provisions pertinent to manufacturers and merchandisers of consumer durable goods line up:

The Taft amendment in the vetoed bill would have required OPA to include in all manufacturers' price ceilings the price the manufacturer received on every item in the Oct. 1-15, 1941, base period plus the weighted average unit cost increase in the industry since that time.

The revised amendment changes the base period to the full year 1940 (Concluded on Page 17, Column 5)

Credit Controls Are Amended To Cover 'Built-In' Appliances

WASHINGTON, D. C.—The new amendment to Regulation W that went into effect Friday, July 5, doesn't relax the order's restrictions on buying appliances on the installation plan.

To the contrary, it slams the door on any homeowner who had hoped to modernize his home and install built-in appliances as part of the house, and pay for the whole thing on a long-term contract.

As far as appliances are concerned, Amendment 20 makes these changes in Regulation W:

1. Now included under the regulation's credit restrictions are combination units incorporating household cooking stoves, washing machines, dishwashers, ironers, or refrigerators.

Until now these appliances were not under Regulation W if they were permanently installed in the house as part of an alteration or improvement project.

There is nothing in the regulation or the amendment, however, that says these appliances, or combinations of them, cannot be built into the house by the contractor, and bought with the house and paid for as part of that contract.

2. Loans made to buy appliances are under the same restrictions that (Concluded on Back Page, Column 1)

Stangard-Dickerson In Major Plant Expansion

NEWARK, N. J.—Stangard-Dickerson Corp., manufacturer of plate-type evaporators, ice cream cabinets, and other low temperature cabinets, has recently greatly increased its manufacturing facilities, reports Victor J. Moss, director of sales.

In addition to the present plant in Newark, which has a floor space of 125,000 sq. ft., a new plant has been acquired in nearby Paterson, N. J., which provides 150,000 sq. ft. of additional plant capacity immediately, and affords considerable extra acreage for future expansion.

Acquisition of the new Paterson properties was necessitated in order to expedite handling of the big backlog of orders on hand, said Mr. Moss.

DETROIT—In the first few days without price control there was no evidence whatever that the refrigeration, air conditioning, and major appliance industries were increasing prices sharply.

In fact, it was hard to find evidence of any price increases throughout the industry. These few days, naturally, have been a period of confusion, particularly in view of the fact that some form of price control may return. But there was no rush to boost prices on scarce appliances, and even refrigeration and appliance servicing firms, who have had a long complaint against the ceilings on their charges, were not boosting them immediately—at least on any widespread scale.

This is what a quick survey of the situation revealed:

Norge Division of Borg-Warner Corp. wired its distributors a message which said in effect: "No changes are planned in Norge prices for the time being. Recommend that distributors and dealers follow a similar policy."

C. R. Pritchard, general sales manager for the General Electric appliance department, sent the following telegram to all G-E appliance distributors:

ASK DEALERS 'HOLD THE LINE'

"Present price law status in our opinion no justification for immediate price changes. We are continuing our past policy of making immediate shipment of all appliances as rapidly as manufactured. We urge each distributor to hold present prices to retailers and immediately request retailers hold current national consumer prices."

The following official statement of the Westinghouse position as regards prices was made by Gwilym A. Price, president, Westinghouse Electric Corp.:

"The Westinghouse Electric Corp. will exercise great restraint in raising the prices of its products in the period ahead—with or without OPA controls in effect. We realize fully that only by increasing production of electrical equipment—heavy apparatus as well as durable consumer items—to the point where the supply is in balance with the demand, will real control be achieved by the normal force of competition. We are bending our efforts to that end."

"Whether OPA controls are permitted to lapse completely or are extended in their past or a modified form, our policy will be the same—to initiate price increases only where absolutely necessary."

"In the case of household appliances, the company's record has been one of steady price reductions. Only by keeping appliance prices at rock bottom can Westinghouse enjoy a mass market for its products, meet competition, and supply a maximum number of jobs."

"Westinghouse is geared to mass production, which depends on mass markets. Indiscriminate price rises beyond those absolutely essential to cover increased labor and material costs would mean a drastic reduction in our sales volume."

HOUSEHOLD PRODUCERS SOUGHT 25% INCREASE

However, it's no secret that manufacturers of household refrigerators, in particular, have not been satisfied with the price relief they obtained after appeals to the OPA, and this is rather clearly revealed in a statement made by Mr. Price of Westinghouse in the public press as late as June 28. Following is the press report on the Westinghouse president's view on appliance prices:

"Citing refrigerators as an example, Mr. Price said the industry estimated it needed price increases of 25 to 30% but was granted less than 10% by the OPA."

COPPER PRICES WITHDRAWN

Of some significance was the fact that producers of copper withdrew all prices as of Wednesday, July 3. (Concluded on Page 17, Column 1)

Tell Your Prospects**Proper Use of Refrigerator Can Cut Food Wastage In Half, Save Odd Items**

CHICAGO—The present normal food wastage of 20% in the average American home could be cut immediately to 10% by a few simple conservation tricks utilizing the refrigerator, according to the Refrigeration Equipment Manufacturers' Association.

An adequate supply of covered square dishes stacked one on top of the other is recommended for saving left-overs like potatoes and vegetables. Covered vessels prevent food from drying out and odors from escaping to spoil other foods.

The housewife's conservation program can begin right at the store, the association suggests. Fresh beet tops can be requested, and if there are not enough to warrant cooking, they can be wrapped and kept crisp in the refrigerator until more accumulate.

The neck, gizzard, liver, and heart of Sunday's chicken can be saved and cooked with the chicken carcass to provide rich broth for Monday night's dinner, R.E.M.A. points out.

Even the tops and tough part of the celery, which is never eaten at the table anyway, can be preserved in the refrigerator for later use as flavoring for meat loaves and pies, casseroles, dishes, and soups.

That last cupful of peas, carrots, or beans left in the pan merits being kept fresh in a covered refrigerator dish. It can be added to other

vegetable dabs to make a fine salad for tomorrow's lunch.

Fat saved from frying bacon or cooking a roast makes a suitable shortening for pie crusts and biscuits, says R.E.M.A. Cooking fat can be poured into a clean tin can or jar and stored in the refrigerator.

A saving in butter can be effected by serving two half pats instead of a whole one. In this way the unused half pats can be salvaged.

Lemons stored in the refrigerator in a covered jar will keep fresh indefinitely, and the bottle top cover from a set of bowl covers can be placed over the cut half of a lemon to prevent it from drying out.

To prevent mold from damaging cake and bread in warm weather, R.E.M.A. suggests wrapping the unused portion in wax paper and preserving it in the refrigerator.

Frozen foods should not be allowed to thaw until they are to be cooked or served, and milk should be deposited in the refrigerator as soon as delivered to prevent exposure to the light which causes it to lose some of its vitamin content, the association reminds housewives.

Buying in quantity will save shopping time and a minimum of 10% on food bills. "Your modern mechanical refrigerator will store your surplus food just as safely as the market," the association claims.

Rosinski Furniture Co. Opens New Appliance Outlet in Buffalo, N. Y.

BUFFALO — Rosinski Furniture Co. of Lackawanna, one of western New York's largest electrical appliance outlets, has opened a new store at 760 Fillmore Ave. in Buffalo.

More than 4,800 persons were clocked through the doors on the opening day. The appliance department is located on the first floor of the store. Modern display and lighting techniques set off appliances to advantage. Large display windows in the front give window shoppers a complete view of the interior.

Radio advertising has played a big role in the rapid growth of the Rosinski Furniture Co. which was founded in Lackawanna in 1914 and expanded in 1926. Many years ago the store began a radio program over a Buffalo station and has continued ever since.

New Prices Established On Firestone Refrigerators

AKRON, Ohio — Retail ceiling prices on three models of household refrigerators sold by Firestone Tire & Rubber Co. were changed by OPA in Amendment 16 to MPR 598 just before the price control law expired as follows:

Model No.	First Zone	Second Zone
5-A-8	\$147.95	\$157.95
5-A-1	135.95	145.95
5-A-2	193.95	203.95

Underwriters' Laboratories Okays Service Cord for Small Refrigerating Machines**Bans Cord for Units of Over 20 cu. ft. Capacity**

CHICAGO — At a meeting of Underwriters' Laboratories, Inc.'s Industry Advisory Conference on Refrigeration Equipment held last month at the Laboratories' Chicago office, discussion of a number of subjects resulted in decisions which will govern the staff in future handling of problems connected with the investigation of such equipment.

The following paragraphs outline the decisions reached.

(1) Self-contained refrigerating machines installed in household cabinets, reach-in cabinets, and home and farm freezers:

(a) When less than 20-cu. ft. capacity (Nema Standard) these machines may be equipped with a service cord. The internal wiring may employ cord or individual conductors currently accepted in the construction of household refrigerating machines.

(b) When larger than 20 cu. ft. but not larger than 60-cu. ft. capacity (Nema Standard) these machines shall not be equipped with a service cord, but shall have provision for permanent electrical connection in the field. The internal wiring may be accomplished with cord or wire the same as is now accepted on household refrigerating machines, provided that the wiring is polarized and all isolated parts likely to become energized be bound together for grounding.

In this classification, consideration must be given to the size of the motor used. If the rating of the motor is such that a circuit fuse larger than 25 amp. is required (according to the National Electrical Code) No. 16 and No. 18 Awg. conductors in the internal wiring will not be adequately protected.

In this case the internal wiring should be either of a heavier gauge or separately protected by fuses. It is believed that the maximum sizes of motor which may be used without additional consideration of protection of the internal wiring are $\frac{1}{2}$ hp., 115 v., and $\frac{1}{2}$ hp., 230 v.

(c) When larger than 60-cu. ft. capacity (Nema Standard) all wiring

shall be enclosed in conduit, metal raceways, or other suitable metal enclosures.

(2) Refrigerated display cases:

This class of equipment is not considered portable and regardless of size all wiring shall be enclosed in conduit, metal raceways, or other suitable metal enclosure. A service cord shall not be employed.

(3) Small fan motors on large self-contained air conditioning assemblies:

The inherent overheating protective devices of fan motors on large air conditioners are not required to be connected in a separately fused circuit or to be tested for group fusing provided the motor is installed in a complete metal enclosure and is remote from combustible material.

(4) Temperatures on wires and cords:

Wires and cords employed in self-contained air-cooled assemblies shall not exceed the recognized temperature limitations of the insulation employed when the machine is operated continuously in a room of 104° F. (40° C.) with no load in the cabinet.

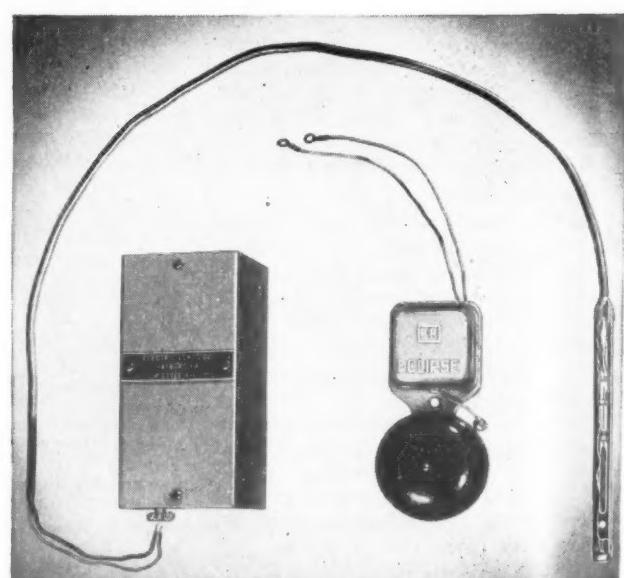
(5) High-potential test at factory:

It is recommended but not required that a factory high-potential test be conducted on all refrigeration assemblies provided with a service cord.

Appropriate changes in the Standard for Unit Refrigerating Systems and Air Conditioning and Commercial Refrigerating Equipment shall be made in accordance with the above.

Wm. Causey Is Manager of Atlas' Pitcock Electric Co.

TULSA, Okla.—William C. Causey, Jr., has been named manager of the Pitcock Electric Co., new electrical appliance and service store being launched by the Atlas Electric Co. here. He was formerly with Kelvinator as district manager for northeastern Oklahoma, a position he left to become sales manager for Atlas Electric.

At last POSITIVE PROTECTION for FROZEN FOODS . . .**ZEROSTAT TEMPERATURE ALARM**

Here is a completely automatic, completely dependable alarm system that gives instant warning of unsafe temperature rise in home freezers, meat boxes, chilling rooms, or any other area requiring maintained temperatures.

Available for Immediate Delivery

WRITE FOR DESCRIPTIVE FOLDER

DISTRIBUTOR AND DEALER franchises still open in a few territories

ELECTRIC GLASS COMPANY

Specialists in Temperature Indication, Control and Alarm

249 NORTH 4TH STREET
PHILADELPHIA 6, PA.

**Dry Beverage Cooler**

39" high
30" wide
6, 8, or 10 feet long

Capacity
6'-17 cases
12 oz. bottles
8'-22 cases
12 oz. bottles
10'-28 cases
12 oz. bottles

The ZEROSTAT System consists of control box, alarm bell, and the Zerostat, which is housed in the "handle" as shown by the cutaway view at extreme right.

3 MODELS
to meet all requirements. Fit any size, shape or make of freezer.

\$24.95
\$29.95
\$39.95

Get the Beverage Coolers you need Now

That's right! There's no need to wait for the beverage coolers your customers want now. Quality workmanship, with either stainless steel or baked enamel exterior, and polished aluminum interior. Heavy-duty fin-type coils insure the fastest cooling and the least frosting. Sliding stainless steel lids, which can be lifted out; 8-inch utility shelf; removable dividers inside; toe space under edges.

Immediate Delivery

Dealers Wanted
Write, wire or phone today for dealer franchise

W. ALLEN

ROGERS Industries

Box 272-AC

Demopolis, Alabama

Illinois Bureau Claims Installers Need Not Register as Engineers

SPRINGFIELD, Ill.—The state department of registration and education was trying to head off a flood of applications from misinformed war veterans and others in Illinois engaged as dealers and installers of air conditioning units, ventilating systems, refrigeration and heating units, who think they are required to register as professional engineers before July 19 under the new professional engineering act.

The division of registration is receiving an average of 300 applications a day, six days a week, from veterans and other craftsmen and dealers who are not required to register as a professional engineer," Philip M. Harmon, superintendent of registration said. "It seems that veterans especially have been misinformed about the law.

"Professional engineers, as described in the act, does not include the dealers or installers of products of a company," said Mr. Harmon. "These misinformed applicants are trying to meet the dead-line of professional engineers who have until midnight July 19 to qualify without examination.

Westinghouse Labor Post Goes to Lippman

PITTSBURGH—W. O. Lippman has been elected a vice president of Westinghouse Electric Corp., and will be responsible for all plant labor relations, including national negotiations, relationship with certified bargaining units, and administration under labor contracts, according to President Gwilym A. Price.

At the same time, Mr. Price announced that Vice President W. G. Marshall has been assigned increased responsibilities for community and public relations, in addition to his administration of company-wide industrial relations.

Positions which Mr. Lippman has held at Westinghouse include: chief inspector of the East Springfield works, supervisor of industrial relations at East Springfield, superintendent of the motored appliances department, superintendent of the air conditioning department, and works manager at East Springfield.

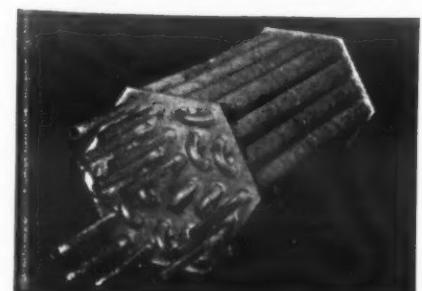
In April, 1943, he was appointed manager of the warborn Canton, Ohio, ordnance division plant operated by Westinghouse for the Navy.

Prior to this present appointment, Mr. Lippman served as assistant to the president.

GOTHAM DIAL THERMOMETERS
For refrigeration, 3½" diameter, No. D35V, manufactured by Gotham Instrument Co. and listed in their catalog at \$18.50 each. Range -20° to +120° Fahrenheit. Black phenol plastic case. Bottom connected with 6 ft. bendable copper capillary tube and 10" plain copper bulb. Great Value! Minimum Order 6 \$10.25 each
Lots 12 to 24 9.75 each
Lots 48 or more 9.25 each
Net F.O.B. New York. Immediate deliveries while they last.

NASSAU FIBRE COMPANY
502 Park Ave., New York 22, N.Y.

ROME-CONDENSER ★ Jointless Type ★



Rome Water Cooled Condenser Coils insure trouble-free condensing equipment. Used by leading compressor manufacturers.

**ROME-TURNEY
RADIATOR COMPANY**
222 CANAL ST.
ROME, N.Y.

Pharo, Hoppin Become Assistants to York General Sales Manager

YORK, Pa.—Walter L. Pharo and Philip B. Hoppin have been appointed executive assistants to the general sales manager, according to John R. Hertzler, vice president and general sales manager of York Corp.

Mr. Pharo before serving 3½ years with the Army Signal Corps, was a sales engineer for York in the Atlanta, Ga. district, with headquarters in Raleigh, N.C. In his new position, Mr. Pharo will cooperate closely with other members of York's sales planning department.

Mr. Hoppin was an officer in the United States Navy from May, 1943 to January, 1946, and before that was with the War Production Board. Previously, he was associated with American Radiator & Standard Sanitary Corp., and was for two years assistant dean of Harvard Graduate School of Business Administration.

May Appliance Center to Feature All Major Lines

LOS ANGELES—Reversing the established department store and appliance shop practice of featuring a few major lines on the display floor, the May Co. will display lines of practically all of the country's major manufacturers of equipment for kitchen, laundry, and bath in its new home appliance center here.

Of the more than 50 manufacturers represented, nine are refrigerator producers, 20 are manufacturers of washing machines, and 17 are makers of electric irons.

More than 200 singly displayed items are shown with 12 complete kitchens.

Waco Air Firm Plans Building

WACO, Tex.—The Sherer Air Conditioning Co. has been issued a permit for construction of an office building at 1425 Franklin Ave. at a valuation of \$3,500.

Omaha Bakers Expand Use of Refrigeration

OMAHA, Neb.—Bakers in the Omaha area are continuing to purchase refrigeration equipment, especially for use in handling retarded doughs, according to Henry Hanson, sales manager for the Omaha Bakers Supply Co.

Commercial refrigerators have been installed in the past several weeks by the Russell Litchenwalter Bakery, Cozad, Neb.; Rynearson Bakery, Leigh, Neb.; Jay Ernest Bakery, Albion, Neb.; and Wally's Bakery.

Hoffman Supply Buys New Building to House Firm

SPRINGFIELD, Mo.—The Hoffman Supply Co., wholesale refrigeration parts business, owned by Harry G. Hoffman, has purchased a new brick building at 560 North Jefferson St. which will serve as the firm's new home.

Carrier Develops Decals To Boost Dealer Sales

SYRACUSE, N.Y.—Dealer decal companies for showroom windows, doors, and trucks have been developed by Carrier Corp. as part of its postwar program of sales through its dealer organization.

Carrier will provide its dealers with decals covering the Carrier nameplate and the various major Carrier product lines, including air conditioning, room air conditioners, food freezers, and commercial refrigeration. The decals come in standard size strips and may be used in any combination to give the desired effect.

Another use for the decals is on the doors of users of Carrier air conditioning, such as shops and restaurants. On the outside of the door the decal will point out that the establishment is air conditioned by Carrier, while as the customer leaves he will see on the inside of the door an invitation to "Come in Again—And Enjoy Carrier Air Conditioning."

COUNT THE "DETROIT" EXPANSION VALVES

When you look at refrigeration equipment, note the type of expansion valve—count the number of "Detroit" Valves you see as compared to other makes. You will be surprised at the large number of "Detroits."

"Detroit" Valves achieved this acceptance through solid merit—they give the industry what it needs in correct control—reliability—long life.



No. 673 Thermostatic Expansion Valve—For many years the standard of the refrigeration industry. Orifice sizes $\frac{3}{16}$ " to $\frac{1}{2}$ " with capacities up to 3½ tons Freon 12 or Sulphur Dioxide and 6 tons Methyl.



No. 787 Dura-Fram Expansion Valve—Representative of the "Detroit" large capacity line No. 788 is rated 12 to 20 tons—No. 787—6 to 11 tons—No. 786—3 to 6 tons.

Has external equalizer connection and can be furnished with No. 790 distributor with either 6, 12, or 18 openings ($\frac{1}{4}$ " each) for multiple distribution.

"DETROIT" VALVE FEATURES

Gas Charged Power Elements—"Detroit" pioneered gas charging 13 years ago; now the principle has been accepted by the entire industry. It makes "Detroit" Valves do a far better job than any liquid charged valve.

Delubaloy Needles and Seats—Corrosion and abrasion resistant to a high degree, Delubaloy was developed especially to give longer, more satisfactory life to "Detroit" Valves.

Special Needle Mounting—Assures perfect alignment in seating without undue wear.

Dureflex Bellows—Bellows type valves are equipped with Dureflex Bellows—made of a superior material, by an advanced method of manufacture which has exceptional quality to resist wear and corrosion.

Dura-Fram Valves—The single diaphragms in these valves are of a specially developed alloy and have an exceptional record of long, trouble-free life. Each "Dura-Fram" is carefully tested for flexibility to assure uniform capacity and smooth operation.

"Detroit" Valves assure better service—longer life.

DETROIT LUBRICATOR COMPANY



General Offices: 5900 TRUMBULL AVENUE, DETROIT 8, MICHIGAN

Division of AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

Canadian Representatives—RAILWAY AND ENGINEERING SPECIALTIES LIMITED, MONTREAL, TORONTO, WINNIPEG

"Detroit" Heating and Refrigeration Controls • Engine Safety Controls • Safety Float Valves and Oil Burner Accessories • "Detroit" Expansion Valves and Refrigeration Accessories • Stationary and Locomotive Lubricators

INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

important part in the termination of effective price control. They feel business should have waited a little longer. They fear the action has been taken too early before production of many items can hope to meet enough of the demand to prevent spectacular increases in price.

Other people believe that this is a great opportunity for free enterprise to prove its worth. By doing it now when the task is difficult the victory will be more impressive.

America is the last stronghold of the free enterprise system, which is known abroad as the American system. It is on trial before the world. For that reason there are strong reasons why private industry should make a good showing now when success will mean more than would be the case nine months hence.

Inflation Busts Out All Over

The task is probably the most difficult the free enterprise system has ever faced.

If Henry Wallace's 60-million jobs are to be provided—and it looks as if they might be—the possessors of current income will be bidding

against the owners of savings deposits for scarce goods.

That will encourage shady operations, inflation, and more demands for higher wages.

Whenever wages are increased without corresponding higher charges for the goods those wage-earners make, further inflation is initiated.

Buying Power Should Equal Purchasing Power

We aren't lifting ourselves by our bootstraps when we affirm the validity of the above theorem.

Production creates equivalent buying.

That's for sure. It has been proved over and over again.

Dollars saved up during high wartime wage-excesses now compete with dollars earned by workers who are producing peacetime goods. Neither group can buy what they want with those surplus dollars.

Higher prices will come about, inevitably.

Money in circulation has been multiplied so enormously that it can't be held in check for long.

And . . .

Whenever a canny American gives a "double-take" toward our national debt, he's ready to turn and run toward the nearest bomb-proof shelter.

Some inflation is inevitable.

The question is: How much?

Let's Check Up on Wage Raises

Pulled out of a top-hat, as it undeniably was, that universal figure of an 18-cents-an-hour wage-raise has been complied with to a large degree across the country.

But prices? Ah, that's a different matter. It seems that wage increases can be granted easily; but price raises come hard.

But how about taxes? Corporate taxpayers have always been the heaviest refurbishers of the national debt-and-deficit. Are they to be ignored?

Apparently so. The national debt—no matter how burdensome, really—doesn't weigh heavily upon the minds of recent graduates of the Invisible School of Mythical Economics.

Averages Don't Pay Off

The OPA has set great store by its extrapolation and interpretation of its own questionable statistics on "average" corporate profits.

But "average profits" taken from all corporate statements—big and small—don't keep individual small businesses in the black.

"Little" businesses must rise or fall upon their own abilities to remain solvent, not upon what big business makes.

If their profits become negligible, they can't pay their share of the corporate taxes which the Federal

Government requires during any single taxable year to maintain its outrageous payroll.

Unlike the older, well-heeled big corporations, little businessmen have no bottomless pit of financial credit to which they can scurry for help, when "times are tough."

No business firm makes its way on average profits. It stands or falls on its own particular P & L statement.

Profits for all corporations during good years must yield a percentage of "fat"—a building-up of monies which can be drawn upon during lean years. The present national administration refuses to look that fact squarely in the face.

It's Too Darned Complicated

In a free market, price fluctuations consolidate the day-to-day, hour-to-hour, minute-to-minute transactions which take place every second in our nation between 144 million consumers and 58 million large-and-small-time producers.

Each set of producers concentrates its price judgments on a relatively narrow field consisting of a certain few products and services.

And each set of consumers concentrates its appraisal of price values upon the desirability and consumption-validity of hundreds of thousands of contributory items.

Put together, the decisions of producers and consumers keep our economy in dynamic balance.

Complexity of these myriad transactions gives the lie to the idea that one almighty Commissar can be super-smart enough to regulate prices and eliminate "black markets."

No one man, nor one committee, can be sufficiently brainy to figure out even a fractional portion of the problems entailed. All they can do is resort to guesses, and then to wilful prevarication (to defend their bad guesses).

The first price deceptions practiced by a "controlled economy" group will lead to other lies, and so on ad infinitum.

"O, what a tangled web we weave, when first we practice to deceive."

Controlled prices are lying prices. They ignore the experience of the markets.

Are Business Men Nuts?

A second fallacy glossed over by price theorists is the notion that once all price-controls have been lifted, business men will "hit the ceiling" with higher and even higher prices.

That's a stupid presumption.

Business men know full well that they're competing sharply with other entrepreneurs for the consumers' dollars.

They have learned—through hard-won experience—that prices affect buying decisions.

If a family has \$300 to spend, the lures of new furniture, a completely modern kitchen, air conditioning, new communicative devices, television, those clothes you all need, that new wing on your house—all these needs will take their place alongside urgent demands for the saved-up and earned dollars which you and your friends have chalked up during periods of frugality (enforced or otherwise).

We Doubt It

If a manufacturer sets his resale prices too high, he'll be left high-and-dry when his buyers come around to look-see at what he has to offer.

Setting his price at too high a point is tantamount to asking for a kiss-of-death on his merchandising program.

If he prices his products at a prohibitive level, competitors will be only too willing to move in under his "tent" and under-cut him.

Look, Mr. Truman

When government agencies stipulate prices, they have nothing to lose.

They're acting "in the public interest," supposedly. When the government makes mistakes, the taxpayers compensate.

But when business firms attempt to live under these partly-thought-out governmental price-edicts, the whole she-bang falls asunder. Price control just isn't realistic.

If a small business is forced to price its products too low, it goes busted. Eventually, a big business jockeyed into a similar position will petition the bankruptcy court, also.

Phrase your own "moral" to this truth.

IMPORTANT NEWS

★ IMMEDIATE DELIVERY

EXPANSION VALVES CAPACITY BOOSTERS

★ ONE WEEK DELIVERY

FLASH COOLERS ICE CUBE MAKERS FIN COILS

"Another Milestone In Our Reconversion
To The Famous Peerless Policy"

PEERLESS
of AMERICA, Inc.
333 N. Michigan Ave., Chicago 1, Ill.

What features do I need?

- Calibrated dials
- Independent adjustment of cut-in and cut-out pressures
- Totally enclosed dust-proof snapswitch
- Cold control adjustment
- Tamper-proof cover
- Capillary pressure connection

MINNEAPOLIS
Honeywell
CONTROL SYSTEMS

New Cooler Producing Firm Set Up In Utica

UTICA, N. Y.—Formation of the Magic-Temp Cooler Co. to manufacture a line of home and farm freezers, self-service frozen food cases, dry beverage coolers, and self-service steel shelving has been announced by Sol Slive and Harry Gould, who head the new firm.

Claimed to incorporate a specially designed air circulating system, the Magic-Temp line is being fabricated at the Hameline Sheet Metal Works in Whitesboro, N. Y.

Magic-Temp plans to distribute its products nationally and is planning a national advertising campaign under the slogan "Made in the Mohawk Valley."

Blower Firm Predicts Air Conditioning Boom

BUFFALO—Sixty-five of the Buffalo Forge Co.'s sales representatives from principal U. S. cities and Canada held a three-day session here recently at which company executives brought them to date on engineering and market developments.

While the meeting stressed engineering information and customer service, the company's sales representatives took time out for a unanimous prediction of continuous "good business" for several years ahead.

"Prospects for increased sales of practically all air-moving and air conditioning equipment manufactured by Buffalo Forge are most promising," declared Sales Manager Charles C. Cheyney. "There is an enormous backlog of commercial ventilating and air conditioning business."

McCloskey Advanced at Seeger-Sunbeam Plant

ST. PAUL—Paul F. McCloskey has been named superintendent of the porcelain plant of Seeger-Sunbeam Corp. here, replacing Mr. Holscher who is on an indefinite leave of absence due to ill health.

After graduation as a ceramic engineer from Penn State in 1935, Mr. McCloskey was employed by Frigidaire in Dayton, Ohio, until 1940 when he came to the porcelain department of the Seeger Refrigerator Co.

During the war, he was superintendent of the Parachute Flare Plant.

Dallas Fixture Group Is 25th To Organize

DALLAS, Tex.—Leading commercial refrigerator dealers in the Dallas area who met here recently unanimously voted to launch a permanent organization.

Officers elected for the current year were Frank Fallon, president; I. L. Jackson, vice president; and Phil Miner, secretary-treasurer. Three standing committees were appointed with the following as respective chairmen: Joe Baggesen, program; W. H. Seglar, membership; and Hugh Martin, executive committee.

Selection of a suitable name for the new organization, and the adoption of by-laws and rules of conduct, were placed on the agenda for consideration at a second meeting of the group. Dallas is the twenty-fifth distribution center to be organized under the nationwide sponsorship of Commercial Refrigerator Manufacturers Association.

White Horse Cabinet Co. Announces Freezer Prices

HARLEYSVILLE, Pa.—White Horse Cabinet Co. here recently announced retail prices of \$400, \$570, and \$565 for three models of its porcelain-finished freezer cabinets.

Consumer and other prices were given as in the following table by the company:

Model	Distributor	Dealer	Consumer
P-16	\$200.00	\$240.00	\$400.00
PC-16	285.00	342.00	570.00
P-24	282.50	339.00	565.00

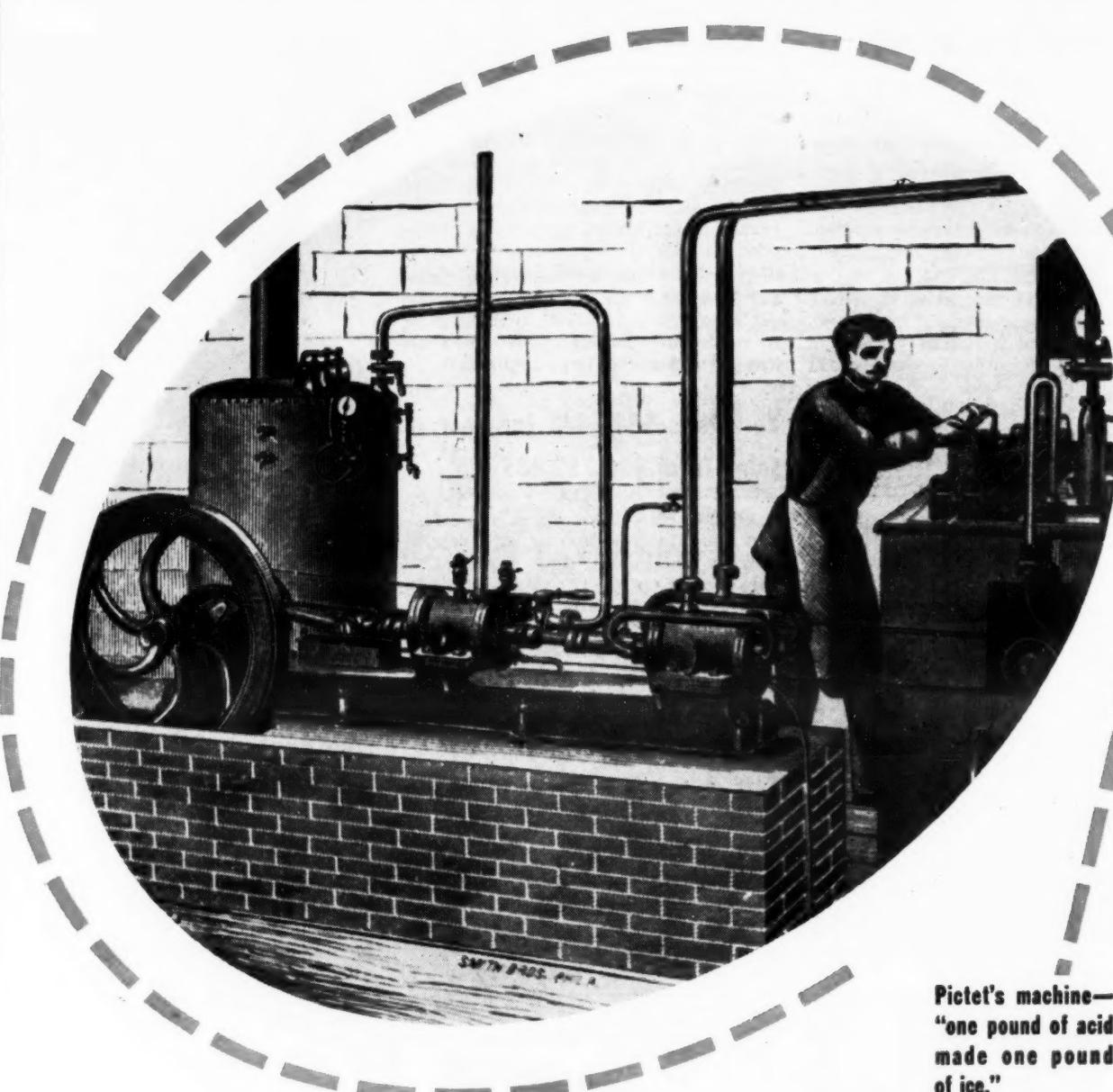
These prices were authorized by OPA Order 652, MPR 591.

Kold-Trux In St. Louis To Produce Truck Unit

ST. LOUIS—Kold-Trux, Inc., with Noel Lowther as president, has been organized at 4200 West Easton Ave. here, with a paid-in capital stock of \$5,000 to manufacture two-way truck refrigeration units.

California Service Firm Gets Okay For Building

SAN LUIS OBISPO, Calif.—C.P.A. approval has been obtained for construction of a wood frame and metal side refrigeration service building at 533 Higuera St. here, for Campbell's Refrigeration of that address, to cost \$3,600.



Pictet's machine—
"one pound of acid
made one pound
of ice."

ICE MACHINE by Pictet-1877

Above is Pictet's "magic" Ice Machine—the best the brains of 1877 could produce.

Now, Baker engineering brains working with precision tools and specially developed materials, are producing refrigeration machinery that far outstrips this crude pioneer model. Baker's modern compact compressor, (below) is but one example of Baker compressor efficiency.

But even a brighter day is dawning. As you read this, Baker engineers are designing machines that will make obsolete today's products. Watch Baker for progress.



Baker Booster Compressor. Example of compactness and efficiency.

Baker!

ICE MACHINE CO., INC. OMAHA

MANUFACTURERS OF REFRIGERATION AND AIR CONDITIONING EQUIPMENT SINCE 1905

Check these advantages—

THE NEW BTC PRINCIPLE OF CROSS-FLOW FLOODING GIVES

- ✓ More Prime Surface Per Square Foot of Plate
- ✓ Fully Efficient Prime Surface
- ✓ Low Pressure Drop

LAT-AWAY SECTION OF EVAPORATOR PLATE SHOWING MULTIPLE PATHS OF REFRIGERANT FLOW

The Cross-Flow system of the B.T.C. Evaporator Plate is designed to give you a maximum prime surface. The refrigerant is distributed equally and efficiently so that every square inch of prime surface is effective. And the Cross-Flow system in the B.T.C. Evaporator Plate assures you a low pressure drop, with the consequent low operating costs.

CEILING BUNKER ASSEMBLY STEP PLATE

B.T.C. Evaporator Plates will do your refrigerating job with peak efficiency.

THE BREWER-TITCHENER CORPORATION CRANDAL-STONE DIVISION BINGHAMTON, N. Y.

Niagara Machine & Tool Starts \$400,000 Program To Enlarge Its Capacity

BUFFALO—Niagara Machine & Tool Works, producer of machines and tools for the refrigeration industry, has launched an expansion program to cost more than \$400,000, which will increase the plant's payroll by 200 to 300 workers, President Frederick E. Munschauer announced.

More than \$100,000 will go for a new building addition; about \$200,000 for machinery in a new unit, and \$200,000 for the purchase of equipment for use in other departments, Mr. Munschauer said.

"The addition which will be 92 ft. wide and about 254 ft. long, will be used for the extension of the forge and heating-treating shop and for enlargement of the welding and steel-fabricating department," Mr. Munschauer said.

Automatic Heating & Supply Releases 1946 Parts Catalog

CHICAGO—Automatic Heating & Supply, refrigeration parts and supplies wholesaler here, announces the release of its 1946 parts and supply catalog which contains all price revisions affecting the company's products right up to the time of printing.

The catalog, bound in plastic for ease of handling, contains all items necessary for the complete serving of the heating and cooling industry, the company said.

Refrigeration Wholesalers Open Business in Duluth

DULUTH, Minn.—Refrigeration Wholesalers, Inc., which will wholesale refrigeration parts and supplies, has been opened here at 7-9 N. 20th St.

C. A. McCafferty and Frank Pond, operators of the Refrigeration & Industries Supply Co. in Minneapolis for the past 10 years, head the new organization. Mr. McCafferty is president and Mr. Pond, vice president.

Indicating the scope of Refrigeration Wholesalers, Mr. McCafferty declared: "We are now in a position to render our northern customers an improved service from Duluth."

York Nets \$842,445 For Year, Sales Total \$30,752,435

YORK, Pa.—York Corp., manufacturer of air conditioning and refrigeration equipment, has reported a net income of \$842,445 for the 12 months period ending April 30, 1946.

This figure equals 91 cents each on 927,726 common shares.

Net sales for the period totaled \$30,752,435.

Automotive Center Has Full Appliance Dept.

SHREVEPORT, La.—M. G. and W. R. Wilder have opened their Wilder Bros. Automotive Service Center at 920-22 Barksdale Blvd., Bossier City, Shreveport, with a full G-E electrical appliance line department headed by Jimmie Trusty.

Free Stickers Advertise All-Industry Exposition

CHICAGO—To support advance promotion for the Fourth All-Industry Refrigeration and Air Conditioning Exposition to be held in Cleveland's Public Auditorium Oct. 29 to Nov. 1, gummed stickers and advertising plates have been made available to the industry without charge.

Growing list of exhibitors who have signed for the show has now topped 150.

Available in packages of 500, small gummed labels printed in blue and black advertising the show are available for the asking from Theodore R. Sills & Co., public relations counselors, at 43 E. Ohio St., Chicago 11, Ill. These stickers are suitable for letters, invoices, bulletins, and trade literature.

Measuring 1½ in. by 2 in., one and two-color electros may be obtained from the same source by exhibitors who wish to use them in their own advertising and sales literature. If it is desired to make plates in other sizes, copies of the art work for both one and two-color plates are available.

Ebco Appoints Sol Lewis Co. Eastern Nebraska Distributor

OMAHA, Neb.—The Sol Lewis Co., located at 2020-22 Farnam St. here, has been appointed distributor for the Oasis electric water cooler for the eastern half of the state of Nebraska, the Ebco Mfg. Co. has announced.

Joins Clark Bridgman As Representative



R. E. KENNEY

CHICAGO—R. E. Kenney has joined the Clark Bridgman Co., representative for Bush Mfg. Co. products in this area, as a territorial representative.

Mr. Kenney will cover the states of Wisconsin, Minnesota, North and South Dakota, Nebraska, and Iowa. He will make his headquarters in Minneapolis.

He was formerly connected with Kelvinator Division of Nash-Kelvinator Corp.

Segal Rejoins Kramer-Trenton After 30 Months Overseas

TRENTON, N. J.—After spending two and a half years overseas with the armed services, S. Charles Segal has returned to his position as chief engineer of the Kramer-Trenton Co., here, manufacturer of refrigeration and heat transfer equipment.

Despite his long absence, Mr. Segal has kept in constant contact with new developments in the refrigeration field and has devoted a good deal of attention to low temperature refrigeration incorporating automatic defrosting.

Since his return, Mr. Segal has spoken before refrigeration organizations in Norfolk, Va., Richmond, Va., Philadelphia, Pa., and Trenton, N. J.

Refrigerated Plane Cabin Keeps Orchids Fresh On L.A.-Chicago Flight

LOS ANGELES—Using a DC-3 plane, equipped with a dry ice compartment, a blower, and a sealed cabin, the Flying Tiger Line in Los Angeles last week flew a plane-load of gardenias and orchids from San Francisco and Los Angeles to Chicago.

This refrigerated plane, admittedly experimental, is believed by the air freight line to be the ideal way of keeping these tender flowers fresh for the 18 hours between cutting and delivery.

The plan, under which the experiment was made, called for growers to transfer freshly harvested blossoms from fields or houses to refrigerated trucks which took them directly to the pre-cooled DC-3s. The planes maintain a temperature of from 35° to 40° while enroute.

Initial efforts, using these methods, according to Mayo Thomas, traffic manager, western division, Flying Tiger Line, indicate that the plan, so far as the first test is concerned, is a success. The previous method was to place sacks of dry ice in the cabins without using blowers to circulate the air. This allowed several temperatures to prevail according to the distance produce was placed away from the ice.

Gardenias after picking are sprayed with a fine mist. This moisture freezes and the blossom is ruined if temperatures are maintained below 35° F. If temperatures are too high, the flowers droop.

Because various produce requires different, constant temperatures, it was considered likely that further experiments will be necessary before a standard method of temperature control is worked out in which any product may be shipped and kept fresh as the day it's picked, it was said.

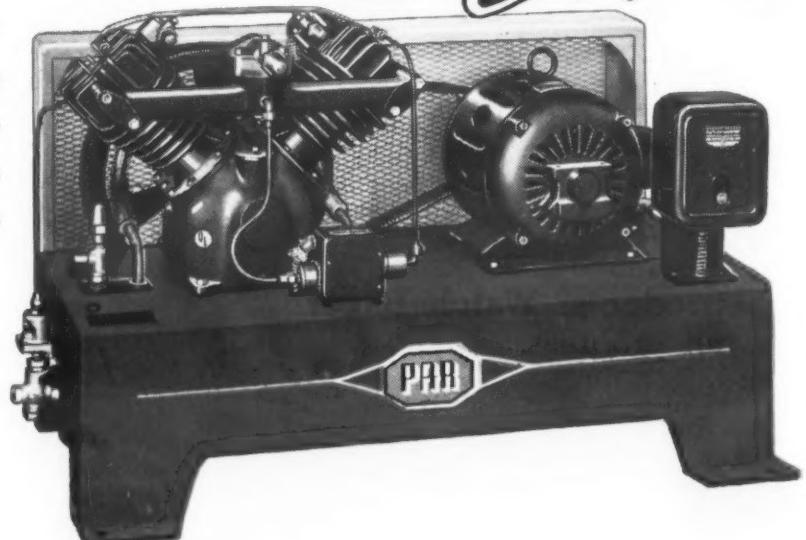
Super-Cold Reports \$197,612 Net Income for Last Year

LOS ANGELES—A net income of \$197,612, equal to 48 cents each on the 408,000 common shares, has been reported for 1945 by the Super-Cold Corp., manufacturer of refrigeration equipment here. This figure compares with \$286,373 or 70 cents a share in 1944.



Often the things that count most are those you can't see, that's why it pays to compare. In PAR you find sturdy construction . . . economical dependable performance . . . plus many exclusive PAR features that give extra years of efficient, trouble-free service.

COMPARE—know the big difference—see your Par Jobber today or write for Par Catalog R-97.



PAR—Condensing Unit Line sold exclusively through Franchised Refrigeration Supply Jobbers!

Lynch

Manufacturing Corporation

TOLEDO 1, OHIO, U. S. A.

by Faulty Water Valve Operation

Skilled hands count little . . . when the installation of an ordinary water valve can imperil operation of a refrigeration or air conditioning system. Yet, it is so easy to be safe...with a PENN!

This new type water regulator gives you dependable, long life performance. For it is so designed, that range springs and sliding parts never come in contact with water. Rust, corrosion and sedimentation never get a chance to interfere with smooth operation.

Don't penalize your skill of installation with ordinary water valves. Install PENN . . . built in two styles—flanged and threaded—in a wide variety of sizes. Send for the descriptive bulletin on this new type water regulator today. Write Penn Electric Switch Co., Gosben, Ind. Export Division: 13 E. 40th Street, New York 16, U. S. A. In Canada: Penn Controls, Ltd., Toronto, Ont.



PENN

AUTOMATIC CONTROLS
FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

Dealer Buying Group**Most of Denver Auto Dealers Organize
For Mass Purchasing of Accessories**

DENVER—Thirty-six of Denver's 42 auto dealers have organized a mass buying, servicing, and distributing plan, whereby the purchasing power of the dealers is combined into a central purchasing unit designed to make everything from car polishing to financing available at dealer's headquarters.

The dealers have incorporated under the name of Denver Auto Dealers, Inc., and have operated their project since January. As soon as building materials are available, they plan to build a central depot, which may include a giant warehouse for the storage and servicing of new cars, a paint shop, and a bulk plant for packaging of oils, grease, and other lubricants.

All stock in the corporation, capitalized at \$500,000 is held by members who will share equally in the profits and dividends.

Edgar H. Rust, general manager of the project, describes the plan as one of protection for the dealers against the rapidly expanding distribution of auto accessories and services by chain stores and others whose principal functions do not include selling or servicing automobiles.

The central buying plan is not designed to compete with supply houses

or jobbers dealing in automotive goods, Mr. Rust said, nor is it a cooperative.

"In the past," he declared, "auto dealers have been on an individual 'free lance' basis in buying all the supplies and services they need to stay in business. As individuals, they have found themselves at a disadvantage in competing for purchases with chain stores, big tire dealers, and other large-scale buyers."

The new central purchasing organization which they now own and operate will enable the individual dealer to obtain the highest quality merchandise and services at mass-buying rates—and thus be able to pass the savings along to the car owner who will go to his dealer for complete 'one stop' servicing."

Though each dealer will continue to operate his own parts department independent of the mass buying plan, the central agency will purchase all his tires, oil, paint, upholstery, batteries, radios, and other general equipment suitable for installation on any make of car, according to Mr. Rust.

During the first year of operation, Mr. Rust estimates a sale of \$100,000 worth of tires and \$60,000 worth of oil, among other items.

'Drive In' Appliance Servicing Store Features**'Drop-Off' Service on Shopper's Small Appliances**

VAN NUYS, Calif.—An estimated 4,500 motorists who daily travel Van Nuys Blvd. to and from downtown Los Angeles form the market depended upon by Young & Adams "drive-in" appliance sales and service here to keep them in business when the chips are down.

Strategically located in the center of this double strip super highway connecting Los Angeles with the San Fernando valley, the store, emphasizing service, invites these motorists to drop off small appliances for servicing on their way to the city and to leave calls for major appliance repairs.

**Pratt Opens Store In
New Hartford, N.Y.**

UTICA, N. Y.—John L. Pratt has opened the Pratt Electrical Appliance Co., 6 Pearl St. in suburban New Hartford. The store handles a complete line of major and small appliances as well as home and commercial lighting fixtures. Mr. Pratt was previously engaged in mechanical and structural engineering and drafting in this city.

**Kelvinator Names Else
Assistant Comptroller**

DETROIT—Donald P. Else, general auditor of Nash-Kelvinator, has been elected assistant comptroller. Mr. Else joined the company in 1928 in the accounting department and was appointed auditor in 1937.

To bring in customers who are unwilling to hunt for parking space downtown, Young & Adams have provided ample parking facilities around the store.

The store itself, a white frame building with "cottage type" display windows, harmonizes with surrounding residences. Bright red and blue neon signs and interior fluorescent illumination are kept on all night.

Although Young & Adams are primarily a service firm, they carry a complete stock of major appliances including home freezers and model laundry equipment. These are displayed just inside the windows.

**Wesco Purchases Supply
Firm In Clarksburg, W. Va.**

PITTSBURGH—D. M. Salsbury, executive vice president of the Westinghouse Electric Supply Co., has announced the purchase of the wholesale electrical supply branch of the Barnes & Brass Electric Co. at Clarksburg, W. Va.

Earl L. Charles, who had been employed by the Clarksburg firm for the past 16 years, was named manager. He will report to D. B. Williams, manager of Wesco's central district, with headquarters in Pittsburgh.

Salsbury Gets New Post With Wesco

DAVID M. SALSBURY

PITTSBURGH—The appointment of David M. Salsbury as executive vice president of the Westinghouse Electric Supply Co. has been announced by B. W. Clark, president. Mr. Salsbury, formerly vice president and general manager, succeeds Walter Williamson, who has retired.

New Shop in Glasgow

GLASGOW, Ky.—The Central Electric Shop, Glasgow's newest business concern, handling Westinghouse line is managed by C. Gulley.

**Springfield, Mo. Requires
Inspected Appliances**

SPRINGFIELD, Mo.—Inspection of all domestic electrical appliances, to assure their safety, is required by an ordinance adopted by the city council. The ordinance applies to electrical toys, radios, electric cords, portable signs, and all types of electrical appliances.

Responsibility for securing an inspection rests on dealers, prior to the sale of the appliances at retail. Approved types of merchandise will be automatically approved without personal inspection.

Dealers will pay a \$25 annual registration fee "to defray expenses of enforcement." Penalty for violation of the ordinance is a fine of from \$5 to \$100.

**Fifth Good House Store
Opened In Philadelphia**

PHILADELPHIA—The fifth Good House Store in the Philadelphia area opened its doors June 28 to serve the Olney section, it was announced by Jerry Newkirk, executive vice president of Good House Stores, Inc.

Located at 5522-24 North Fifth St., in the heart of a key shopping area, the store will handle major appliances and radio and television equipment.

Large areas of clear expansive glass in the store front convert the entire 4,000 sq. ft. of floor space into a gigantic window display, Mr. Newkirk declared.



TENNEY ENGINEERING, INC.
26 Avenue B Newark 5, N.J.
Telephone BIC-6055
Manufacturers of Automatic Temperature, Humidity and Pressure Control Equipment

**REFRIGERATION ACCESSORIES**

- Instantaneous Water and Beverage Coolers.
- Oil Separators.
- Two-Temperature Valves.
- Accumulator Heat Exchangers.
- Equalizer Tanks.
- Controlled Temperature Photographic Processing Units.
- X-Ray Refrigerating Units.

TEMPIRE PRODUCTS
CORPORATION
47 PIQUETTE AVENUE DETROIT 2, MICHIGAN

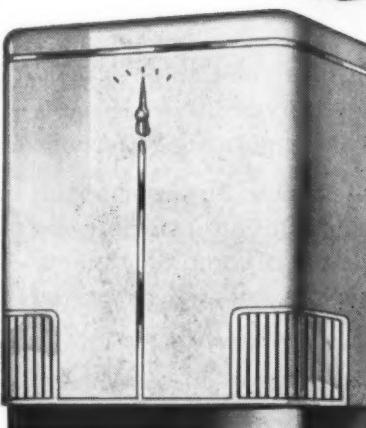
Where lasting fine appearance is important...

BONDERIZING**ANCHORS THE FINISH TO THE METAL**

Bonderizing helps foster and maintain the buyer's pride of ownership.

Fine finish appearance is obtained and protected by Bonderizing. It forms a phosphate coating which becomes part of the metal itself, anchoring the finish and preventing the spread of rust from accidental abrasions.

Bonderizing assures lasting fine appearance and freedom from rust—makes buyers and users of the Bonderized appliances *proud* to own them. PARKER RUST PROOF COMPANY—2170 E. Milwaukee Ave., Detroit 11, Michigan.



He wouldn't sign the lease until they installed the Cordley Water Cooler

CORDLEY AND HAYES
452 4th AVENUE, NEW YORK, N.Y.

Specialists on
Drinking Water Equipment for 57 years

BONDERIZING • PARKERIZING • PARCO LUBRIZING
Holds Paint Inhibits Rust Retards Wear on Friction Surfaces

PARKER PRODUCTS CONQUER RUST

For DEPENDABLE Refrigerants

"EXTRA DRY ESOTOOL"
(Liquid Sulfur Dioxide)

"V-METH-L"
(Methyl Chloride)

Distributors of
"FREON" REFRIGERANTS
11, 12, 21, 22, 113

VIRGINIA SMELTING COMPANY
WEST NORFOLK, VIRGINIA
NEW YORK • BOSTON • DETROIT



OFF THE CHEST

Seventeen Years Ago

Stewart Ice Machine Co.
1046 E. 22nd St.
Los Angeles, Calif.

Editor:

Congratulations on your editorial "WHAT'S THE MATTER WITH AMERICA?" It is good and should make a lot of people sit up and take notice of the things happening all around them that sooner than they suspect, will have them hog tied, if it has not already gotem.

There are just two things wrong with your editorial. First, the timing is a little off. Seventeen years ago, 1929—when millions and millions of industrial and agriculture workers were hollering to high Heaven, and small business organizations were being liquidated by the tens of thousands, you, for some unknown reason,

didn't hear them when they were asking that very same question.

Second, your capacity for reasoning appears to get totally pooped out when you stretch your memory back to the entrance of Franklin D. Roosevelt onto the national scene with his new deal. He heard the pleas of the millions "WHAT'S THE MATTER WITH AMERICA" and tried to do something about it. He did not cause the troubles that brought workers together in powerful groups. Groups which are so powerful they can throw our national economy into a dying mess. Management brought that about by concentration of industry and by low-down dishonest methods of dealing with labor, and manipulation of finance.

Your solution to these problems; the enactment of the House-approved Case bill into Law, will not, in my

judgment, tend to shackle power hungry union heads, and give management a club, as you so much desire to beat into submission all who dare to question management. Neither will you find the answer in rattling F.D.R.'s bones or groping around in John L. Lewis' eye brows.

The answer will be found in the hearts of men; in honest dealing between management and labor. Management should be just as eager to locate points of friction in labor as in a piece equipment or in organization. And just as ready to cooperate in an honest effort to eliminate these trouble spots. It's a hell of a lot of honesty to try and locate in big business management, though. Your editorial is good, even though it is 17 years late.

M. L. STEWART,
Gen'l Mgr.

Consumers Union

950 North 6th St.
Baton Rouge, La.

Editor:

If you want to know what may be done to prevent Labor Unions from wrecking this country then get this. What should be started by all the rest of the people who are suffering from these strikes is a CONSUMER'S LEAGUE or UNION.

You state that people are striking all over the country; so what, we have the answer in ourselves, so let the so and sos strike. Let us hire men who will do the work and who are not at all interested in unions. Just suppose a group of electrical union men call a company unfair because the company uses non-union labor. The Consumer's union will note this and advise all members of



Refrigeration Products

Humi-Temp Forced Convection Units—Patented CROSS-FIN COILS—Bare Tube Coils—Zinc Fused Steel Plate Coils—Disseminator Pans—Heat Exchangers—Evaporative Condensers—Instantaneous Water Coolers—

See Your Jobber or Write Direct
LARKIN COILS,
519 Memorial Drive, S.E., Atlanta, Ga.

the Consumers union to not hire any of the union men of this electrical company, but hire non-union help.

If we did this to union labor they would soon be begging for jobs instead of charging so damn much for a half day's labor which takes a day to do. That is a small example, but we have the power not them, and it is us not the labor unions which cause this trouble, so we are the people to stop it at once. The whole thing stands on that we stick together, and we cannot lose by trying.

WILLIAM A. DAVIDSON,
Commercial Refrigeration Salesman

Wider Distribution

Chagrin Falls, Ohio

Editor:

I too have been reading your editorials with great interest and am very glad to note that you offer to send reprints so that those of us who care to, can see to it that wider distribution is given to your very sound and sensible sentiments.

I, for one, intend sending to each of our representatives and senators from this state and I wonder if you have been doing the same and if it would not be a good idea for AIR CONDITIONING & REFRIGERATION NEWS to send copies of this material to Washington.

JOHN GORDON RIDEOUT

P.S. I would like about 100 copies of the reprints, if available.

Very Appropriate

Engineering Specialty Co., Inc.
900 W. Ridge Rd.
Gary, Ind.

Editor:

Please send us 100 copies of the reprint on your recent editorial on "What's the Matter with America?" We plan to send these to all of our customers in northern Indiana and southern Michigan. If you could spare 300, we feel that it would be very appropriate at this time.

E. M. KIRTLAND,
President

Dandy Editorials

Chapman Refrigerator Sales
Corvallis, Ore.

Editor:

Just received your May 27 issue, and want to compliment you on your dandy editorials, "What's the Matter with America?" and the editorial written eight years ago, which you published under "Inside Dope."

Is it possible to get reprints of these articles? If so, I would like to receive about 12 of each.

Thanks very much.

F. BISHOPRIC, Sec'y to
C. E. MARINER, Mgr.

Interesting Article

International Harvester Co.
Jacksonville Branch
Jacksonville 1, Fla.

Editor:

I have just read the very interesting article in your May 27 issue of AIR CONDITIONING & REFRIGERATION NEWS, which article is entitled "What's the Matter with America?" and written by George F. Taubeneck.

I wonder if you could send me 10 copies of this write-up separately, or if not, could you furnish me with 10 copies of the complete magazine.

If possible, send only the item referred to, "What's the Matter With America," and if you do not have these available, forward 10 copies of the complete magazine, and forward bill covering them, or advise price and remittance will be forwarded to you in advance.

V. H. BALLARD

Tool Owners Union

Rogers Corp.
Manchester, Conn.

Editor:

Having read your editorial in the May 27 issue of the NEWS, I suspect you might be interested in the en-

closed reprint from the Lexington Minute Man, which describes the purposes of a so-called Tool Owners Union. This organization is aimed towards the accomplishment of some of the aims which you have suggested as being necessary in the present national situation.

We have already used up the application coupons which were printed at the bottom of the reprint, but if you are interested you might write direct for further information.

R. F. HAWLEY,
Treasurer

Where They Will Do the Most Good

The Acklin Stamping Co.
Toledo 7, Ohio

Editor:

Please send to the writer's attention 100 copies of your current editorial "What's the Matter with America?" The writer would like to distribute this editorial among some of his friends and customers and certainly appreciates your kind offer to furnish the additional editorials without charge. You may be sure that they will be placed where they will be read and where they will do the most good.

W. WILLIAMS,
Ass't Sales Mgr.

Spread Them Around

Monroeville, Ind.

Editor:

Please send me about 15 copies of your editorial in May 27 issue of the NEWS.

I am in a position where I can spread them around and watch the reaction among people who are stupidly and whole-heartedly in favor of present union activities. Keep up your good work. You are beginning to come back to life again.

J. K. MARQUARDT

Monroeville, Ind.

Editor:

Thanks for the reprints of your editorial "What's the Matter with America?" sent by Mr. Henderson.

As I said in my letter requesting these reprints, I have the opportunity to post your editorial in a conspicuous place where all types of laboring men can read it.

Your editorial stayed posted without anybody molesting it and I know it caused a lot of superficial people to think a little bit.

In my opinion, management is taking a stupid attitude toward the labor question in that they are psychologically taking all punches from labor with their guard down.

A little intelligent propaganda on the part of management would have surprising results in their favor if they just had the guts to put some out.

Not all laboring men are fools by any means.

Things have been so one-sided for so long that most laboring men are afraid to express their own convictions.

If you want to set labor agitators back on their heels, fight them with logic.

In my opinion, we had all better start fighting intelligently, or it may be too late sooner than we think.

J. K. MARQUARDT

Bluntly and Plainly

Brackett & Shaw Co.
Somersworth, N. H.

Editor:

We are pleased with your main front page article, "What's the Matter with America?" and wish that there were more editors that had the courage to talk bluntly and plainly to us (the common American people).

We wish to take advantage of your reprint offer on page 17 and could use the 100 reprints and see that they are redistributed through our dealer organizations that covers a large proportion of New England.

A. F. BRACKETT

UNIVERSAL COOLER

USES
MUELLER BRASS CO.
PARTS IN THEIR
CONDENSING
UNITS



UNIVERSAL COOLER

Division of INTERNATIONAL DETROLA CORP., Marion, Ohio

THESE PRODUCTS MUST BE GOOD!



BUILT-IN QUALITY • TIME-TESTED PERFORMANCE
Mueller Brass Co. Valves, Fittings and Accessories are
sturdily and dependably built. They have a well-earned
reputation for built-in quality and time-tested performance.

The Mueller Brass Co. line of refrigeration products is
exceptionally complete, and all products are designed and
manufactured specifically for mechanical refrigeration
work. THEY ARE USED BY ALL OF THE LARGEST
MANUFACTURERS THROUGHOUT THE UNITED STATES.

Prominent in the list of nationally-known manufacturers who use Mueller Brass Company products is Universal Cooler, Division of International Detrola Corporation. One of the pioneers in the field of refrigeration, Universal Cooler is completing a full quarter century of service to many leading manufacturers of refrigeration equipment.

Since 1922, Universal Cooler has specialized in designing and manufacturing refrigeration condensing units, building a complete line of hermetically-sealed, remote and self-contained type units ranging from 1/8 to 15 h.p.

In manufacturing these refrigeration condensing units, Universal Cooler employs the most modern production methods, using modern machine tool equipment, automotive type assembly lines, complete research and design facilities and "Controlled temperature" rooms for simulating actual operating conditions in order to insure positive, accurate testing of equipment before shipment.

MUELLER BRASS CO.
PORT HURON, MICHIGAN

DID YOU GET YOURS?

If not, write on your letterhead
today for new spring & summer

DEPENDABOOK

THE HARRY ALTER CO.
1728 SO. MICHIGAN AVE. Two Big Warehouses
CHICAGO 16, ILL. 134 LAFAYETTE ST.
NEW YORK 13, N.Y.



What Are the 'Tricks' That Assure Quality Air Conditioning In Large Installations?

S. R. Lewis Offers Suggestions That Will Help Contractor To Plan a Job

ST. PAUL—Numerous practical pointers for the architect and designer of air conditioning systems featured a paper prepared by Samuel R. Lewis, Chicago consulting engineer, for the air conditioning symposium conducted by the American Society of Refrigerating Engineers at its recent spring meeting here.

"The Part to be Played by the Consulting Engineer and the Architect in Assuring Quality Air Conditioning" as discussed by Mr. Lewis brought out several important ideas for consideration in planning systems.

"Granted a comfort installation in a large office of an industrial plant, the architect might be urged to set aside for the machine room an area near the center of the space that is to be served," suggested Mr. Lewis. "This machine room might well be above the space to be conditioned, so that any air distributing duct need carry not more than half the volume of air it would have to transport if the machinery room was at an end of a long building."

Deliver Air Downward

Another thought offered by Mr. Lewis was "that cooled air is more easily delivered downward to the horizontal ducts than forced upward to them, and that this virtue overbalances the resistance encountered when forcing warm air downward."

In the northern hemisphere, he continued, it would probably be better to obtain outside air through an opening in a north wall instead of from the east or west sides of the building or directly above a "sun-heated black-surfaced roof."

He also said he would protest any plan which merely provided for summer cooling alone because "if ventilation and comfort are desirable in summer, they are even more desirable in the spring and fall and on cold winter days."

"There would be positive exhaust by a fan, capable of delivering all the air removed from the rooms by it, either outside or back to the intake of the supply system. The proportion of recirculation to the total volume of air supplied would be variable and adjustable."

"Thus in extremely hot or extremely cold weather the percentage of recirculation prior to occupancy would be high, and during occupancy it might be sufficient only to control odors or to comply with health department rules. On spring and fall days when the outside air is cool enough to avoid operation of the refrigerating plant, 100% outside air

would be enjoyed and 100% of the spent air would be wasted out of doors," declared Mr. Lewis.

In multi-story buildings design of air distribution ducts would be controlled by the location of partitions, or in the event of large open spaces, at least one inlet for every construction bay or a minimum of one inlet for every 400 sq. ft. of floor space would be required, he said.

Considerable effort would be made to secure in each room or bay a commensurate spent air opening for every air supply opening, though if these could not be obtained reasonably for every bay, recognition would be made of the fact that delivery of the air supply to the critical area is

more important than minute distribution of the air removal.

"Every private office would have means for individual automatic temperature control. There would be emphasis on the possibility that at some future time partitions may be added or moved, and that intensities of occupancy may change. Many non-quality air conditioning plants might have been quality ones if zoning for automatic temperature control had been designed for each construction bay or for each private office, rather than zoning for solar influence on the whole east side or west side of a long building."

Direction of Air Supply

Designers and architects were advised by Mr. Lewis to use great care in locating air supply inlets, and particularly to "view with alarm"

those inlets intended to introduce air at high velocity at right angles or even diagonally toward transverse ceiling beams or even toward exterior walls.

"I remember one large installation in which for many private offices the air delivery is overhead, horizontally toward the windows. The executives in these offices preferred to sit with their backs close to the windows facing toward the air supply inlets. The entering air, especially when cooling the room, caused an objectionable down-draft that could be felt against his back by each man at his desk."

Large air volume with low inlet velocity is recommended by Mr. Lewis to permit a low temperature differential between air in the room and entering air. This would minimize the injector effect of high velocity air which tends to cause counter-flow of dust-laden room air.

Advising filters for both fresh and recirculated air, Mr. Lewis declared that "there would be provided the most efficient air filters that money could buy, as nearly automatic concerning rejuvenation as could be found, and visual signals should be installed to aid in maintaining the

filters at a high standard."

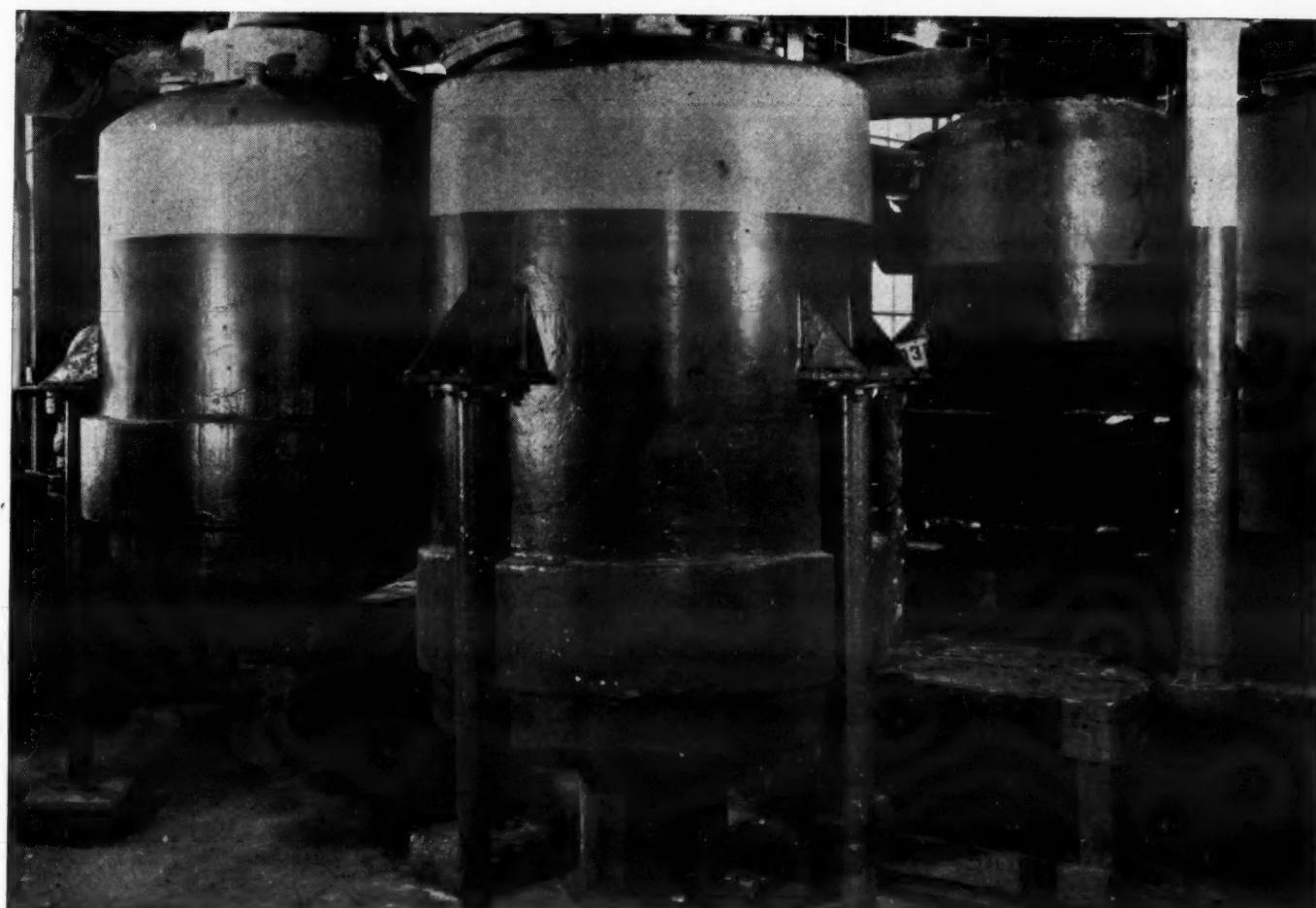
"The engineer should not be afraid to use reheating, even at a slight increase in refrigeration demand, since by reheating the least complicated and longest enduring automatic differentiation of temperature and relative humidity in different rooms or zones can be obtained."

"Every air supply intake from outside and every outboard exhaust outlet would have a normally closed very tight damper that would be open only if the electric circuit to the respective fan motor were closed. The thermostat in any room or zone would control all of the controllable sources of heat that could affect the thermostat."

"There would be provided under every air supply apparatus located above the bottom story of the building, a water-tight and positively drained and curbed floor, to prevent the damage that otherwise eventually may occur from leakage of water or steam or oil."

Mr. Lewis also strongly advises that anti-vibration bases should be provided for fans, motors, and pumps, and suggests that it might be well to consider acoustical treatment for the machinery room and air ducts.

These Huge "Drying Towers"...



Add Years of Service to Air Conditioning and Refrigerating Systems

Where there's moisture, there's air—and where there's moisture and air within a refrigerating system there's the possibility of corrosion, oxidation, and freeze-stoppages.

To lessen the risk of costly shutdowns and repairs . . . to make refrigerating equipment last longer . . . "Freon" safe refrigerants are dried in the huge drying towers pictured above until there are no more than 25 parts of moisture in a million parts of "Freon."

The scientific production methods and constant laboratory control used

in the manufacture of "Freon" safe refrigerants mean increased operating efficiency—long-range economy—to air conditioning and refrigerating installations. They guarantee the outstanding advantages of a refrigerant created specifically to meet the requirements of engineers who have designed—and are designing—modern miracles in air conditioning and refrigerating equipment.

All "Freon" safe refrigerants meet rigid specifications. "Freon" refrigerants are pure—free from acids, free from high-boiling impurities, and free

from harmful amounts of moisture and insoluble gases.

"Freon" refrigerants—known for safety and high quality for more than 15 years—permit the design of compact, efficient, long-lasting equipment. From low-temperature industrial applications through the frozen foods industry and in commercial and home air conditioning and refrigeration, there's a "Freon" safe refrigerant for every job. Write for complete technical data. Kinetic Chemicals, Inc., Tenth and Market Streets, Wilmington 98, Delaware.

IMPORTANT FEATURES OF "FREON" SAFE REFRIGERANTS

1. Freedom from moisture...less than 25 parts per million.
2. Narrow boiling point range—confined within limits of 1/2°C.
3. Less than 2% of insoluble gases in vapor phase.
4. Freedom from acids. There are none in "Freon."
5. Freedom from impurities...less than 1/20 of 1%.



INDUSTRIAL COOLERS

High suction pressure water coolers ideal for bakery ingredient water and jacket cooling, film processing, bottling plants, etc. Variable ranges of sizes. Low suction pressure for remote installations and cabinet type coolers also available.

DAY & NIGHT
REFRIGERATION DIVISION
DAY & NIGHT MFG. CO.
One of the Dresser Industries
MONROVIA, CALIFORNIA
SOLD THROUGH REFRIGERATION WHOLESALEERS AND DEALERS

They'll Do It Every Time . . . By Jimmy Hatlo



Out With Special Privileges--Revise the Wagner Act!

NATIONAL

—one of America's
foremost slant-type

Dry BEVERAGE COOLERS

Now available in
limited quantities



This is truly the most sturdily constructed cooler on the market. Heavy gauged steel exterior, full 3" insulation, rust resistant interior steel. The slant type, dividing partitions, inner utility shelf, stainless steel doors make for easy and clean dispensing. Full length fin coils and circulating blower fan(s) for positive refrigeration.

All coolers are 39" high, 28" deep, in 4 popular length sizes:

52" (approx. 15 cases) 98" (approx. 31 cases)
74" (approx. 23 cases) 118" (approx. 39 cases)

Available in two exterior finishes:

BLACK BAKED-ON WRINKLE, Stainless
Doors; or ALL STAINLESS STEEL
FRONT, TOP AND SIDES.

WRITE FOR OUR NEW ILLUSTRATED CATALOG
of a few items we are now manufacturing. Limitation of materials
does not allow a complete line at present but we are pleased to offer
the following:

REFRIGERATED BASES AND SALAD UNITS; BEER DISPENSERS;
PRE-COOLER SHAFTS; WATER COOLERS; STAINLESS STEEL WORK-
BOARDS; OPEN KITCHEN UNITS; URN STANDS, WORKTABLES,
CANOPIES, SPLASH BACKS, STEAMTABLES, GRIDDLE STANDS, ETC.



This is one of our typical Stainless Steel workboards for which we are nationally famous. See our catalog for other styles.

We will be pleased to figure special Stainless Steel kitchen units on receipt of your drawings and specifications. We keep our delivery promises.

NATIONAL COOLER CORPORATION
1600 Woodland Ave. Cherry 0600 Cleveland 15, Ohio
Manufacturers
STAINLESS STEEL & METAL RESTAURANT EQUIPMENT

AN INTERNATIONAL INSTITUTION • SUBSCRIBERS ALL OVER THE WORLD



Copyright,
1946.
Business News
Publishing Co.

F. M. COCKRELL, Founder

Published Every Monday by BUSINESS NEWS PUBLISHING CO.
450 W. Fort St., Detroit 26, Mich. Telephone Randolph 0924.

Subscription Rates: U. S. and Possessions, Canada, and all countries in the Pan-American Postal Union: \$4.00 per year; 2 years for \$7.00. All other foreign countries: \$6.00 per year. Single copy price, 20 cents. Ten or more copies, 15 cents each; 50 or more copies, 10 cents each. Send remittance with order.

GEORGE F. TAUBENECK
Editor and Publisher

PHIL B. REDEKER, Editorial Director

C. DALE MERICLE, Associate Editor
ROSS H. POTTER, Associate Editor
JOHN SWEET, Assistant Editor
ROY DENIAL, Assistant Editor
HUGH MAHAR, Assistant Editor
GEORGE HANNING, Assistant Editor
Editorial Assistants: BARBARA LEE,
MARCELLA PRICE, FRANCES WEED,
LORRAINE McNINCH.

E. L. HENDERSON, Business Manager
ELIZABETH SMITH, Assistant Bus. Mgr.
MACIL STEPHENS, Asst. Adv. Mgr.
ROBERT M. PRICE, Adv. Representative
ALLEN SCHILDHAMMER, Adv. Rep.
M. J. MADDOX, Subscription Manager
WALTER J. SCHULER, Production Mgr.

Member, Audit Bureau of Circulations. Member, Associated Business Papers.

VOLUME 48, NO. 10, SERIAL NO. 903, JULY 8, 1946

Why Has Man-Hour Output Dropped So Alarmingly?

LOOKING askance at the sharp drop in labor productivity which followed the war's end, some of our more enlightened industrialists are searching diligently for a solution to a situation which has indeed become serious.

What can be done to get Labor to put in an honest day's work? That's the question which worries management almost more than any other in these hectic, worrisome days.

In a survey conducted among 1,000 business executives by the American Management Association, it was revealed that many top-ranking business men believe that industry hasn't rewarded its workers in the most effective way.

A majority of the repliers suggested that a closer study should be made of the employee's needs and desires. This study should stress the problems of the man, rather than those of the machine, if management is to succeed in obtaining eight hours work out of an eight-hour day.

Endorsing this theory, more than one questionnaire manufacturer declared that the worker, like the investor, should be entitled to receive a fair share of the company's operational profits.

A meat-packing executive who goes along with this view avowed that, regardless of how up-to-date a company's equipment may be, a dissatisfied employee can hold up production. His solution: pay the employee a wage commensurate with his needs; show your appreciation of his efforts; provide (for his comfort) such things as a cost-basis cafeteria, rest periods, paid vacations, credit unions, etc.

One industrialist who replied at length to this questionnaire observed that man-hour production has slumped, even where incentive pay is involved. He explained that, after the employee considers that he has earned a fair day's pay, a slowing-down may still show up in the figures—even though that employee may earn 10 to 15% more pay by working only as conscientiously as he did prior to the war. Reason why: income-tax rates have risen.

An educational program prepared for teaching "the facts of life" to workers, union representatives, and supervisors was advocated by one executive, "so that they will understand and believe in an incentive plan."

Another question which stirs up plenty of arguments today is the status of the foreman. This latter gent allegedly is management's link with its workers. It has now come to pass, however, that many industrialists wonder whether the best method for stimulating higher employee production standards is the old route through the foreman, or the new union-approach of appealing to the worker directly.

Lower man-hour output, at a time when the people are crying for more goods and when lower productivity means worse inflation, is a mighty serious matter.

Do the union leaders sway the rank-and-file, or do hell-bent-for-election union members push their elected officers into uncompromising positions on such matters as an honest day's work?

That's the \$64-dollar question. If you know your own men well enough, and can figure out the best way to appeal to their higher motives, you're on the road to achieving a reasonable labor-productivity rate. But if you can't figure out what to do when Union Labor begins to dictate, God help you!

If men like you, they'll work for you. But if your employees can be persuaded to hate you, you're in a pickle of a fix.

Employe relations have become the major problem of Our Time.

YOUR SERVICE WORK IS EASIER

...because  expansion valves
are dependable in any position
or any temperature & location

Body position and location of an A-P Thermostatic Expansion Valve makes absolutely no difference to its accurate and super-sensitive refrigerant-control efficiency. You can install it with the body in any position, or in any temperature demanded by the limitations of your application. Further — the valve body can be placed either higher or lower than the thermostatic bulb without affecting the valve operation in any way.

This greatly simplifies installation — a fact that thousands of refrigeration service engineers are proving every day to their own profit. And it is because of the A-P type of construction with the liquid cross-charged power element and loading spring feature, which combine to maintain the large sensitive diaphragm in constant equilibrium for accurate refrigerant control under all conditions.

This is only one of many features that help you to faster, easier installation of A-P Thermostatic Expansion Valves and assure more accurate, DEPENDABLE refrigerant control on any system, large or small . . . for your greater profit in refrigeration service.

AUTOMATIC PRODUCTS COMPANY

2450 NORTH THIRTY-SECOND STREET • MILWAUKEE 10, WISCONSIN
EXPORT DEPT. • 13 E. 40TH ST., NEW YORK 16, N.Y.

 **Dependable** REFRIGERANT VALVES

STOCKED AND SOLD BY GOOD REFRIGERATION HOUSES ALIKE WHERE . . . RECOMMENDED AND INSTALLED BY LEADING REFRIGERATION SERVICE ENGINEERS

G-E To Boost Rural Appliance Dealerships To 3,000, Set Up Area Quota Systems

NEW YORK CITY—A five-year program for the development of the rural appliance and farm equipment market, including expansion of "farm and home" dealerships from 800 to 3,000, has been launched by General Electric Co. in view of unprecedented farm-family savings and the expected doubling of rural electrification service.

Details of the program were discussed by George E. Mullin, manager of the farm sales division of G-E's appliance and merchandising department, in a talk here before the farm marketing group of the New York chapter of the American Marketing Association.

"Farm and home" dealers are being franchised at present by General Electric Supply Co., which has been merchandising all G-E's farm equipment, according to Mr. Mullin. The company plans to increase the number of these dealers from 800 to 3,000, he said.

As another part of the program, G-E's distribution services division at Bridgeport will set up distributor rural quotas for all major appliances for the first time. It was explained that these quotas will be based on the number of rural meters compared to urban, rural income compared to urban, appliance saturation in rural areas compared to urban, and other factors such as natural and bottled gas in the case of ranges.

Mr. Mullin told the group that farm savings are at an all-time high

of \$16,000,000,000 or average cash savings of \$2,500 for each family. He estimated the rural market potential for the next five years at \$5,000,000,000 and said that perhaps \$2,500,000,000 would be spent for household electrical appliances and radios.

Observing that 5,000,000 farms are expected to be electrified by 1950, Mr. Mullin asserted that "we are approaching a market represented by almost half of all the homes of the country." About 44% of the six million farms in this country have power line service and the number of users will be doubled in five years, he declared.

One phase of the program calls for the "farm and home" dealer eventually to handle the company's entire line so the farmer can purchase all needed appliances and farm equipment in one store. Mr. Mullin said there is a need for this type of store because the average farm is 14 miles from town.

"When the quotas on major appliances are set up for our distributors, the total quota on each major line will be broken down into rural and urban quotas," Mr. Mullin pointed out. "This is a new thing in our rural sales program. . . Now we can determine what percentage of refrigerators, for example, should be sold to people living on farms and in small towns of 2,500 and less population."

By attaching a consumer fact and warranty card to each major appli-

ance, the company will find out the percentage of each line of appliances which was purchased by rural customers, it was explained. Part of this card is a detachable post card bearing the query, "Is your residence rural (under 2,500 population) or urban (over 2,500 population)?"

"On refrigerators before the war, there was better than 60% return of warranty registrations, and on other major appliances the return was also high," Mr. Mullin said. "However, everyone knows that a return of 10 or 15% is sufficient to get an accurate sample of the sales distribution in an area."

The program will be promoted by local newspaper advertisements, radio, commercial motion pictures, direct mail, farm shows, and rural sales training for distributors and dealers. Dealers will also be aided by the catalog service in the form of counters or booths in the stores and including a farm catalog, stock sheets, ordering instructions, and the like.

Kassover to Buy Major Appliances for Vim

NEW YORK CITY—Irving Kassover, for the past 15 years connected with the Vim radio and appliance chain in metropolitan New York, has been named buyer of major appliances for all stores. For the past several years, Mr. Kassover has been manager of the chain's Cortlandt street store.

Present plans call for the expansion of the appliance departments in all stores, Mr. Kassover states.

New Norge Regional Managers



E. L. FROHLICH
New York Regional Manager



J. M. TENNEY
Los Angeles Regional Manager



DEAN SPENCER
Atlanta Regional Manager



J. H. FROHLICH
Chicago Regional Manager

Bendix Department Shift Aids Product Expansion

SOUTH BEND, Ind.—To meet requirements of a product expansion program scheduled for this summer, Bendix Home Appliances, Inc., has nearly doubled the working space of its engineering department, increased the department's personnel by two thirds, and relocated the service department to gain 150% in floor area, said Judson S. Sayre, president.

The company's automatic dryer and automatic ironer now are nearing the production stage and probably will reach dealers by late summer, he said.

Changes in the engineering department included segregation of its divisions, addition of equipment to the testing laboratory and model shop, and rebuilding of the chemical laboratory. A. R. Constantine, vice president and director of engineering, supervised expansion of the 18,000 sq. ft. department.

Continuous-line fluorescent lights have been installed for the drafting department. The service department, headed by Alvin P. Smith, has been moved to another building.

Ward Appliances Opens

STILLWATER, Okla.—George H. Ward, recently discharged, has opened Ward Appliances at 910 Main St.



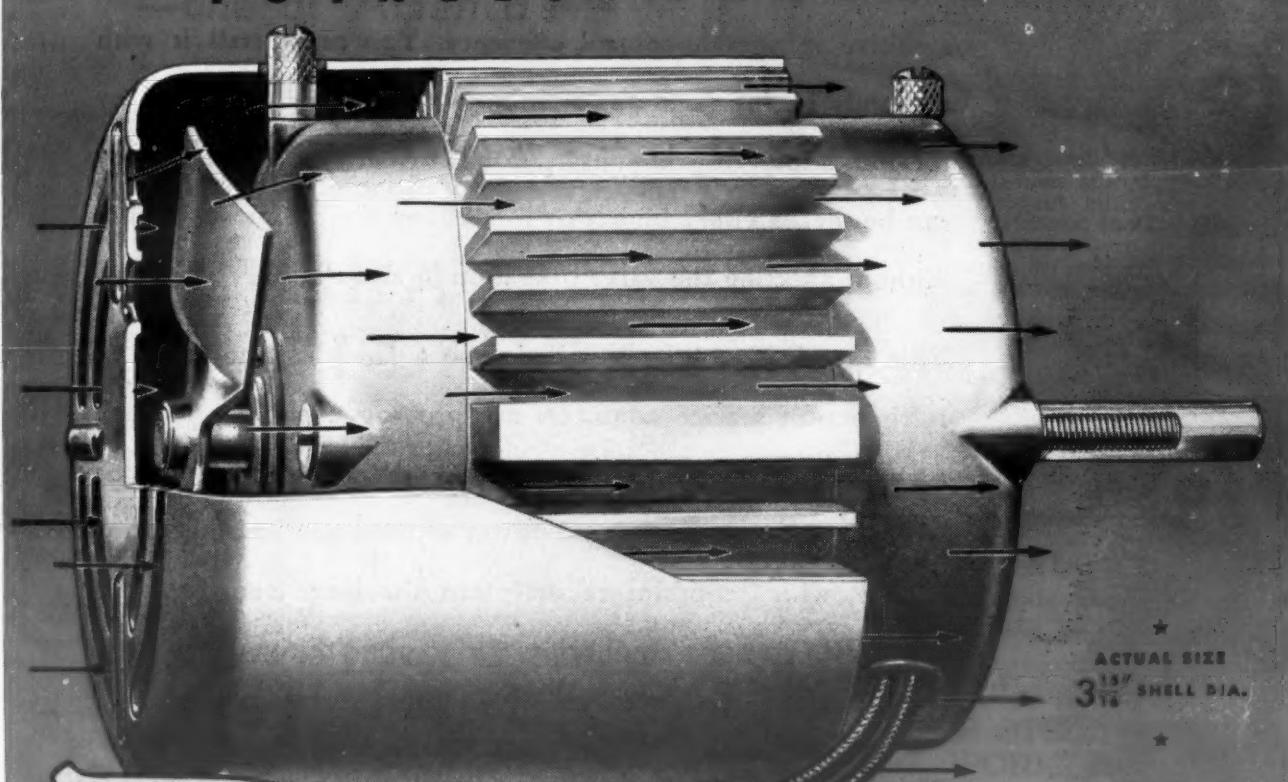
- ★ Exclusive Dealer Franchise
- ★ Now in quantity production
- ★ All sizes: Industrial and Commercial
- ★ The last word in...

ELECTRIC WATER COOLERS

Revelation Company
Division of
Interstate Engineering Corporation
2600 Imperial Highway
El Segundo, California

Air-Stream Cooled

T O T A L L Y E N C L O S E D



Redmond TYPE "T" MICROMOTORS

THEY'RE not restricted to fan duty. Because they have an enclosed forced air cooling system, Redmond Type "T" shaded pole MicroMotors are suitable for applications which many other motors of comparable power can't handle.

They circulate air in heaters, air conditioners and ventilators. They power agitators, small pumps and churrs. Yes, sir, Air-Stream cooled Redmond Type "T" MicroMotors in sizes up to 1/25th horsepower, serve faithfully on a surprising number of tough jobs.



Redmond COMPANY, Inc., OWOSO, MICHIGAN, U. S. A.

Today the combined Redmond facilities include more than five acres of floor area and 2000 employees.



PROVO, Utah—First steps were taken here toward formation of a Utah County Chapter, Intermountain Electrical Association, following election of officers and a board of directors at a meeting of more than 65 electrical retailers and contractors throughout the area.

Elmer A. Jacob, superintendent, Provo utilities department, was elected president; Henry J. Heisch, manager of the Sears, Roebuck Co. store in Provo, vice president; and Henry H. Falkner, associated with the Utah Power & Light Co. in Orem, secretary-treasurer.

Directors named at the meeting included Howard A. Egan, Orem; Thomas W. Reese, American Kork; George H. Hawkins and Allen A. Francis, Spanish Fork; George C. Leany, Lehi; Ray Klauck, Springville; Philip Shane, Provo; Mr. Jacob and Mr. Heisch.

Nebraska Egg-Breaking Plant Has 8 Cold Rooms

YORK, Neb.—The largest egg-breaking plant of its kind in the nation was put in operation here recently by Bowman & Co., subsidiary of Standard Brands. The cold storage plant is four stories high, contains eight cold storage rooms each 55 x 70 ft. and has 12 miles of 2 in. refrigeration pipe.

About 200 women will be employed at the egg breaking plant when it reaches full production, Mr. Vandervord said. The white and yolks of the eggs are separated, packed in individual cans, and placed in cold storage for shipment.



George Coble Increases Dairy Business from 11 to 36,000 Daily Gallons in 11½ Years—Uses 46 Frick Refrigerating Machines, Totaling Over 2,000 Horsepower

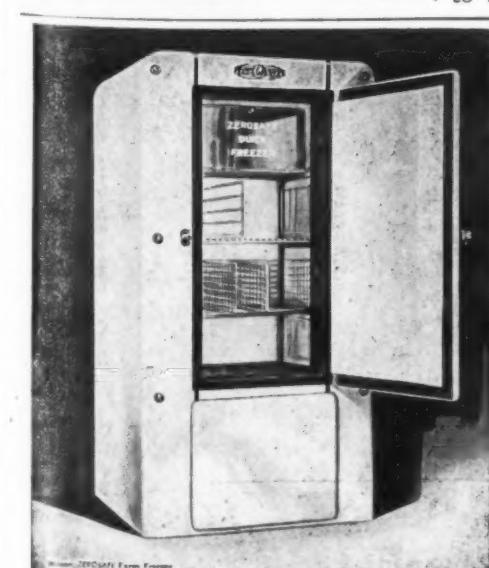
That summarizes the remarkable growth of Coble Dairy Products, Inc., of Lexington, N. C., which now has 15 branch plants.

Starting with one small Frick compressor in 1934, Mr. Coble now uses Frick Refrigeration in all his dairies—will own 51 Frick machines when those on order are shipped. Installation by Piedmont Engineering Corp., Frick Distributors at Charlotte, N. C.

Another proof of the saying that "The users of Frick Refrigerating, Ice-making and Air Conditioning Equipment make money."



View in the Lexington, N. C., Plant of Coble Dairy Products, which Covers a City Block



Locker Plants in a Dozen Georgia Towns Use Similar Ammonia-Type Systems

Average Plant Has 500 Lockers, Costs \$35,000

ATLANTA—Frick ammonia refrigerating systems, designed for fully automatic operation, have been installed in frozen food locker plants in a dozen Georgia towns, C. P. Goree, Frick's Atlanta branch manager, has reported.

Mr. Goree, who designed the refrigeration systems for all of them, described the average plant as containing 500 lockers and installed in a one-story brick building about 50 ft. wide by 60 ft. long. The size of various rooms averaged:

Locker room	50' x 16'6" x 10'
Quick freezer	12' x 7'6" x 10'
Chill room	16' x 6'6" x 10'4"
Aging room	18' x 16' x 10'4"
Pork curing	36' x 10' x 10'4"
Miscellaneous supplies	10' x 6' x 10'8"

The refrigerating equipment used in these locker plants includes two ammonia compressors, usually size 4 x 4; evaporative-type condenser; liberal sized receiver; standard discharge-line oil separator; 2 in. black steel pipe shelf coils for quick-freezer (made up in two sets of coils, each four or five pipes wide by nine pipes high, and having top and bottom connecting headers with horizontal surge drum and liquid level float control); 2 in. ceiling coils, five pipes wide by two pipes high, over each aisle in the locker room; and suitable fan-type unit coolers in chill, aging, and pork curing rooms.

One compressor operates on the quick freezer and locker room at about 5 lbs. suction pressure, and the other compressor on the balance of the rooms at 20 to 25 lbs. suction pressure. The two compressors are cross-connected for emergency service.

The automatic control system includes Frick NAS electric control valves in the liquid lines to all evaporators; liquid level float control for quick-freezer; thermostatic expansion valves for all other evaporators; three-wire room thermostats; and high pressure cutouts with alarm bell.

The thermostats control the NAS electric control valves on one circuit and the compressor operation on the other circuit, so that the compressor is stopped when all the rooms on its circuit reach the cutout temperature, and started when any room requires refrigeration and its thermostat cuts in.

A suction pressure regulator is usually installed to maintain desired minimum suction temperature in the evaporator surface in the chill and aging rooms and the pork curing room. Valve bypasses with strainers are installed for all automatic valves to facilitate servicing them.

The quick freezer in each of these plants has sufficient capacity to handle all peak locker plant loads and some additional commercial freezing, or freezing for the owners of home freezer storage cabinets.

In some of these plants, air blast was used in the quick freezer. The quick freezer is arranged to hold several good sized tray trucks. After the goods are wrapped ready for freezing, they are loaded on these trucks and then run into the quick freezer. Then the air blast is turned on. After the goods are frozen, the truck is simply run into the locker room and the goods unloaded.

Mr. Goree said that he endeavored to keep the refrigeration system as

simple and free from trouble as possible. The quick-freezer and locker room coils seldom require defrosting or other attention. The unit coolers are sized so as to be self defrosting on shut down cycles.

All the locker plants are insulated with pure vegetable corkboard, using 8 in. thickness on outside walls, floors, and ceilings of the quick-freezer and locker rooms, and 4 in. thickness all over the other rooms.

The total overall cost of such a plant, including building, insulation, cold storage doors, meat rail with track scale, refrigeration machinery, and all necessary plumbing, heating, and processing equipment, is approximately \$35,000, it was stated.

Asst. Sales Manager



EDDY MILLER

Schnacke Names Miller to Compressor Division Post

EVANSVILLE, Ind.—Eddy J. Miller, formerly with Servel, Inc., has been appointed assistant sales manager of Schnacke, Inc. in the air conditioning and refrigeration compressor division.

After taking up studies in engineering at Evansville College Mr. Miller affiliated himself with Servel, Inc. in 1936, assisting in the development of refrigeration condensing units and compressors. Since 1941 he has been associated with electric refrigeration sales and served as application engineer and later sales engineer. Since 1942 Mr. Miller has also assisted in the air conditioning and refrigeration training courses in the Evansville Evening College of Vocational Training.

New \$100,000 Frozen Food Firm Begun in North Carolina

MOUNT AIRY, N. C.—A new frozen foods organization, for both processing and distribution, is Colonial Frozen Foods Corp., which is capitalized at \$100,000. The firm will also operate a frozen locker plant, and packing houses for local produce which will be quick frozen for the market. Officers include H. Woltz, W. Barber, and C. Woltz.

Wilson ZEROSAFE Reach-In Farm Freezer Is Years Ahead...

SINCE 1939

Wilson ZEROSAFE the greatest reach-in farm freezer in America... These years of trouble-free ZEROSAFE service are your guarantee that "Freezers by Wilson" will continue to revolutionize American menus by making frozen fresh foods a part of daily living. THE NEW ZEROSAFE IS NOW GREATER THAN EVER... There is a ZEROSAFE size for every need: 15 cu. ft. (illus.) and 25 cu. ft. Self-Contained Models; and Sectional Models from 22 cu. ft. up to 120 cu. ft.

For franchise information, address Desk 11:

WILSON REFRIGERATION, INC.
DIVISION OF WILSON CABINET CO.
SMYRNA DELAWARE

Texas Locker Plants

Rise 33% in 11 Months

COLLEGE STATION, Tex.—Texas now has 403 frozen food locker plants in operation in comparison with 268 eleven months ago, an increase of 33% in less than a year.

A recent survey of Texas division of agricultural statistics showed that 46 of this number are co-operatives, including 26 REA co-ops. Five of the number are branch plants serviced by central systems.

Roy Snider, extension head of Texas A & M College who also supervises a frozen food locker course at the school, predicts a large expansion in the industry throughout the southwest. He also predicts a swing to custom frozen foods.

Locker School Graduates

MANHATTAN, Kan.—Fifty-eight students were "graduated" from a 12-weeks' course in the "freezer locker operators training school" at Kansas State College here.

Three Stores Serving The Midwest

BUDLOCK Refrigeration Supply Co. Inc.

EVANSVILLE TERRE HAUTE FORT WAYNE

INSULATING FACTS

FOR COLD STORAGE AND LOCKER PLANT OPERATORS



For your free copy—Address Redwood Fibre Products Co., Inc. Dept. E, 228 N. LaSalle St., Chicago 1, Ill.

Since 1935

P-R-E-F-E-R-R-E-D

The fact that more than 800,000 MASTER Lockers are in use all over the nation is positive proof that they are "The Choice of the Industry." This nation-wide acceptance is your guide to "good lockers"—so be sure you get

MASTER FOOD CONSERVATORS

—the modern lockers for economical locker plant operation. Equip for the future as well as the present—get MASTER.

We're Still In There Pitching

Even though the raw material situation is critical, our production and shipments are being stepped up as rapidly as possible.

Endorsed by and sold through distributors of refrigeration and insulation.

MASTER MANUFACTURING CORP.

121 Main St.

Sioux City 4, Iowa

Member of Frozen Food Locker Manufacturers and Suppliers Association organized for your protection.

Over 800,000 Master Food Conservators in Use

Building Coolers for Machine Tools Is Profitable 'Sideline' for Contractor

By Controlling Temperature of Coolant, Units Permit Finishing to Very Close Tolerances

By C. Dale Mericle

DETROIT—Production of refrigeration units for cooling the oil employed as a coolant in industrial machining and finishing operations has developed into a sizable business for Mechanical Heat & Cold, Inc., refrigeration and air conditioning contractor here.

An important customer for the refrigeration units is Micromatic Hone Corp. here, which manufactures automatic and semi-automatic honing machines for industry designed to finish surfaces to within a tolerance of .0003 in., which is extremely close work for quantity production.

Refrigeration Adds Life

To Abrasive Sticks

Refrigeration plays an important role in helping maintain these close tolerance operations, and is also credited by engineers of Micromatic Hone with giving a longer life to the abrasive "sticks" which perform the actual honing operation.

Oil and other types of coolants, of course, have long been used by industry to cool both the tool and the work, in all types of machining and finishing operations. Such coolants, however, will become rather hot from

the heat generated by the friction of machining or finishing. In automatic honing operations, for example, the coolant oil may build up to a temperature of 150° F., points out Douglas Peden, chief of research engineering for Micromatic.

Such a rise in temperature may readily result in changing the size of the piece being finished. Under these uncontrolled conditions, a variation in size of as much as .0007 in. is frequent, which is not permissible in operations calling for tolerances of .0003 in.

Coolant Held to 70°

The refrigeration units are designed to hold the coolant oil at about 70° F. under normal ambient temperatures of 95°. The design temperature of 70° was selected to keep both the coolant and the work at approximately room temperature, according to Mr. Peden. By maintaining the work at room temperature there is less likely to be any variation in finished size following the honing operation.

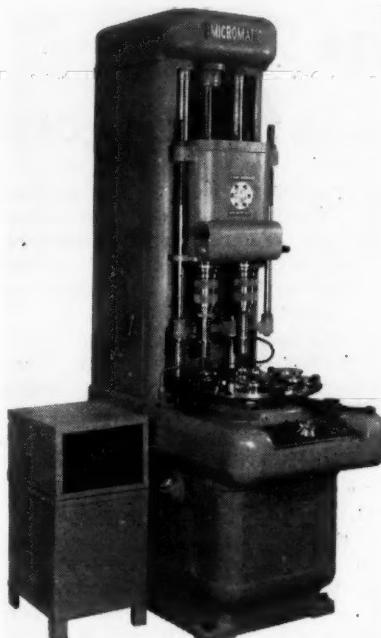
If the coolant were held at 50° F., for example, there might be considerable distortion (several ten-thousandths of an inch), when the part is removed from the machine and permitted to warm up to room temperature.

Avoid Condensation

It is also necessary to prevent condensation from forming on the coils or surface of the oil tank to collect in the oil, which might harm the machine or the work.

Standard refrigeration units as produced by Mechanical Heat & Cold are equipped with a single 1/2-hp. air cooled "Freon-12" condensing unit, either hermetic or open type. They are completely self-contained, some models being designed for installa-

Connected to Honer



Shown beside a two-spindle automatic Micromatic honing machine is a pressure type oil cooler built by Mechanical Heat & Cold, Inc., a Detroit contractor. The unit holds coolant at 70° F. permitting the honing machine to finish parts to tolerances as fine as .0003 in. In an actual installation, the cooling unit would probably be located behind the honing machine.

tion in the base of the machine tool; others are mounted in cabinets independent of the machine tool; still a third type is mounted in oil filter units.

One special construction feature of the refrigeration units, according to T. H. Mabley of Mechanical Heat & Cold, is the use of all-steel construction throughout. No copper is employed. It is necessary to use steel, he explains, to avoid any corrosive action which might result from sulphurous oils employed as coolants. Plastic tubing is also employed as insulators for suction lines.

Cleanability Important

In Design of Units

Cleanability is another design problem which had to be met in these units, because sometimes dirty oil is

encountered. Dirt and sludge from the oil will accumulate on the evaporator, thus reducing its effectiveness. If extreme dirt conditions are likely to be encountered, plate type evaporators are recommended for ease of cleaning.

The model intended for installation in the base of a standard vertical Micromatic honing machine has the evaporator suspended directly below the enclosed frame housing the condensing unit. The finned coil evaporator is designed to fit into a tank 10 in. deep, 10 in. wide, and 28 in. long. With an evaporator temperature of approximately 40° F., the unit's capacity is rated at 4,000 B.t.u. per hour.

In this honing machine the coolant oil falls into a sump in the base of the machine after it has passed over the tool and work. It is pumped around the base through the cooling coils, then through a filter, and finally is discharged on the tool and work.

Filter Unit Model

A second type of refrigeration unit is designed for installation in a Hoffman oil filter unit, which is frequently hooked into the oil coolant circuit of a machine tool. The cooling unit is mounted on four angle-iron legs which stand in the sump of the Hoffman filter. Coolant oil is cascaded down the evaporator coil, first passing through a wire screen to remove any metal chips or other large particles. A baffle plate insures the oil's passing over the coils before it is drawn into the filter, consisting chiefly of fuller's earth, and pumped back to the machine.

Coil space of this unit measures 16 in. long, 18 in. deep, and 6 in. wide, and the capacity is rated 4,200 B.t.u. per hour. It is also available with plate type evaporators where ease of cleaning is important.

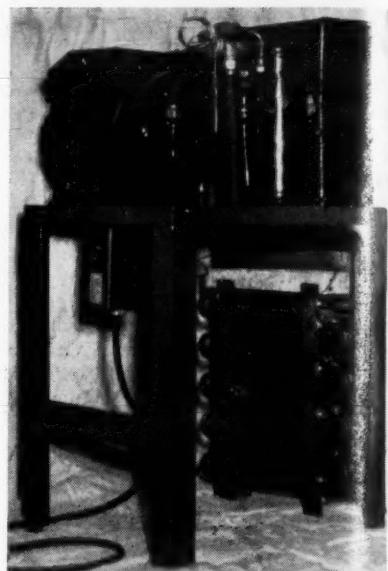
Another unit, also rated at 4,200 B.t.u. per hour capacity, is designed to be used with thread grinders or other types of installations where problems of dirt and other foreign matter in the oil would make the use of the open evaporator unit impractical, according to Mr. Mabley.

Force-Feed Unit

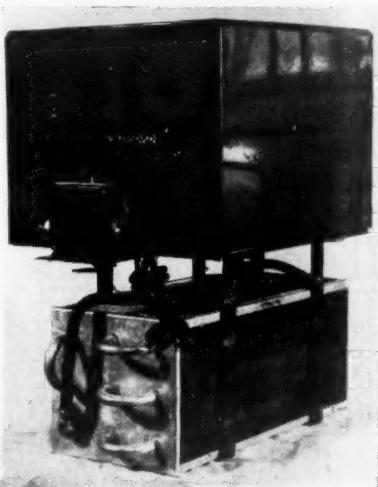
This refrigeration machine is a package unit, but it has to be connected to the oil circuit piping. Construction is such that the cooler will handle 10 gals. of oil a minute with a pressure drop of only 1 1/4 lbs. If the oil circulating pump can take about 3 1/4 lbs. pressure drop, up to 20 gals. a minute can be cooled, Mr. Mabley said.

To increase the cooling capacity of the units, two or three condensing units are frequently hooked up in tandem. Two of the units intended for the Hoffman filter, for example, can be combined in a single frame with two plate evaporators to provide a capacity of 7,500 B.t.u. With a larger evaporator 9,000 B.t.u. capacity is obtained. Another combination of two units gives 8,000 B.t.u. capacity, while a hookup of three machines provides a rated capacity of 14,200 B.t.u.

Unit Design Varies



Another cooler produced by Mechanical Heat & Cold is installed in a Hoffman oil filter unit, frequently used in conjunction with machine tools.



This type of coolant cooler is designed to fit into the base of a vertical honing machine, the evaporator extending down into the sump containing coolant.

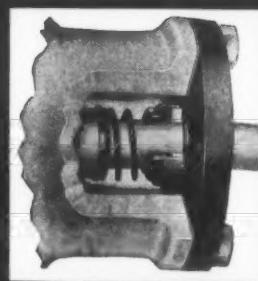
600 Expected at Annual Twin Cities RSES Picnic Planned for July 21

MINNEAPOLIS—More than 600 people are expected to attend the annual picnic July 21 at Bass Lake near here sponsored by the Twin Cities Chapter of the Refrigeration Service Engineers' Society, according to L. A. Ost, general chairman.

Numerous sporting events, swimming, fishing, and dancing are planned for the all-day session. Aided by their wives, the following R.S.E.S. members are serving on the committee for arrangements:

Dean Holmes, William Mahnke, Art Palen, Gene Coulter, Norman Sulenes, Ubert Hanson, Gley Schwartz, Harry Schaeffer, Edward Asperoth, Alex Andrews, and George Pegg.

ROTARY SEAL REPLACEMENT UNITS for Refrigerator Compressors



Have won world-wide recognition because of their simplicity in construction, installation and operation. Resulting in: Dependability, long life and low cost.

Available for Over 752 Models of Refrigerating Assemblies.



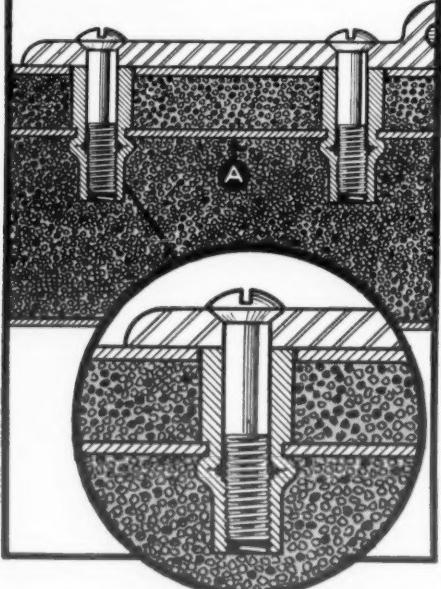
ROTARY SEAL COMPANY
2020 N. LARRABEE ST., CHICAGO 14, ILL.
Canadian Office: 382 Victoria Ave., Montreal 6, Canada

PROBLEM:

Attach heavy hinges on door of large, walk-in refrigerator. Insulation: two "sandwiches" of hard sponge.

SOLUTION:

This RIVNUT used like this...



SPECIAL brass Rivnuts with thick spacer heads supplied the answer to this attachment problem. The spacer head made it possible to upset the Rivnuts deep in the "sandwich," against metal sheet "A." The hollow cores of these Rivnuts, with clean threads remaining after upset, supplied a firm foothold for attachment screws. Five brass Rivnuts were used on each hinge, size 1/4-20, with 1/2" thick spacer head.

GET NEW "RIVNUT DATA BOOK"

Rivnuts may fit into your plans in many helpful ways. Get this book now with 40 fact-packed pages telling a complete Rivnut story. For your free copy, write today to The B. F. Goodrich Co., Dept. AC-7, Akron, Ohio.

B.F. Goodrich
RIVNUTS
It's a rivet—It's a nutplate

MARSH Spells Lasting Accuracy

Every field has its leader, but few are the fields where a name is so synonymous with absolute dependability as is the name Marsh on a pressure gauge or dial thermometer.

Producing gauges and thermometers that spell lasting accuracy involves laboratory control reaching into every step of production... advanced methods of forming bourdon tubes and obtaining jewel-like accuracy in sectors, pinions, staffs and bearings... methods of gauging and checking of each component so that the final assembly must be right and stay right.

Ask FOR THIS NEW BOOKLET

The Marsh Gauges and Thermometers commonly used in refrigeration service are illustrated here and completely described in a new booklet which fully covers their construction and service range. Write for your copy.



Marsh Standard Pressure Gauge



Marsh Standard Compound Gauge



Marsh Gauge with Corresponding Temperature Scales



Marsh Ammonia Gauge



Marsh Remote Reading Dial Thermometer

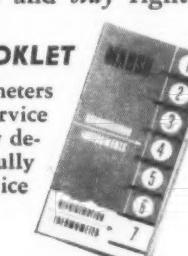
MARSH
Refrigeration Instruments

Use...

THE MARSH "SERVICEMAN"

Here is the accurate answer to that vital question, "What's going on behind the closed door?" The remote reading feature does the trick. Note below how the generous length of capillary tubing is coiled up in the case when not in use. The "Serviceman" is guaranteed accurate within one degree. It has endless uses—is one of the most important tools in the servicing kit.

JAS. P. MARSH CORPORATION
2067 Southport Ave., Chicago 14, Ill.



Refrigeration Problems And Their Solution

By P. B. Reed

For Service and Installation Engineers

Carbon Dioxide In Refrigeration Work

Ordinarily, few of us realize the tremendous part that carbon dioxide plays in our everyday lives. There is never a minute but that we are intimately connected with it, for it forms a large part of the very breath that we exhale from our lungs. It is one of the important raw materials from which vegetables, fruits, and other plants that we use for food, are built. It is the gas that is thrown off when vegetable matter or animal flesh decays.

It is the gas that is produced from fermentation, that puts the foam on beer, that makes bread rise, that forms the bouncing bubbles of champagne.

Previously known as "carbonic acid gas" and now more familiarly as CO two" carbon dioxide in its natural state is a colorless odorless and rather heavy gas. Artificially, by applying high pressures or subjecting it to low temperatures or both, we convert it into liquid form or into a solid.

At ordinary room temperatures its saturation pressure is almost 1,000 lbs. per square inch, so high in fact that in refrigerating machines em-

ploying it as a refrigerant, the pressures are referred to in "atmospheres," that is, multiples of atmospheric pressure, 14.7 lbs. per square inch.

Thus a carbon dioxide machine would be said to operate at 70 atmospheres condensing pressure and 28.4 atmospheres evaporator pressure instead of 1,028 and 317 lbs. per square inch (gauge) respectively.

In late years the use of carbon dioxide has declined due to the extremely heavy construction required for these high pressures, the high cost of operation (high horsepower-per-ton factor) and the availability in recent years of "Freon-12," which is non-inflammable and non-toxic, as these were the prime reasons for the use of carbon dioxide.

But it has gained far more in the refrigeration industry than it lost due to its abandonment as a primary refrigerant, for it is finding increasing favor in its solid state as "dry-ice."

CO₂ AS DRY-ICE

The name "dry-ice" comes from the odd characteristic that carbon dioxide has of not going through the liquid state when it melts. When solid carbon dioxide "melts" it goes directly into a gas and, therefore, remains dry, as contrasted to water-ice, which, when it melts, turns into water. Dry ice can, therefore, be

put in a carton with ice-cream, frozen foods, or other below-freezing perishables and as it "melts" it goes directly into gaseous form (a peculiar change of state known as "sublimation"), without damaging the frozen product or even the cartons.

Dry-ice sublimes ("melts") at a very low temperature, -109.6° F. Even lower temperatures than -110° F. may be obtained by pouring alcohol over the dry-ice which speeds up the rate of melting and lowers the melting point.

Moreover, dry-ice has a high capacity for absorbing heat, much higher, in fact, than water-ice has. Its latent heat of sublimation (heat required to change it from solid to gas form) is 246 B.t.u. per pound, 100 B.t.u. per pound higher than water-ice.

Also the cold -110° gas in warming up to zero requires 184 B.t.u. per pound per degree (specific heat) which gives another 20 B.t.u. to the heat absorbing ability of the dry-ice, making a total of 266 B.t.u. per pound. So it requires little more than one half as much dry-ice by weight to do an equal job as water-ice.

(To Be Continued)

Norge Cuts 10-Day Service Course To 2 Days With New Slide Film Program

MUSKEGON, Mich.—Norge's National Service Department has discarded its former week-long service training program in favor of a simplified, two-day course intended to pep up dealer service and featured by ten 15-minute color films covering all Norge domestic appliances.

The program, described as "compact, hard-hitting, and easy to stage," has been announced to Norge distributors by Thurlo Johnson, manager of the service department. It was being taken into the field by seven of the concern's service representatives who were to instruct distributors in its staging.

Believed to be the first service training course in full color put out by an appliance manufacturer, the program was produced by the service department under the direction of E. H. Dayton, Norge service representative. It consists of the 10 sound slide films, reprints of the films in booklet form, and instructions for conducting meetings.

Purpose of the program is to train new dealer service personnel and give "old timers" a refresher course.

"It is not designed, however, to make a service man out of a man who has had no previous experience," according to Mr. Johnson. "It will simply tell and show enough about the products and how to service them to give him a working knowledge."

An incidental use of the program, Mr. Johnson pointed out, is to train sales personnel.

"Sales managers generally agree that both wholesale and retail salesmen are continually handicapped through lack of basic mechanical knowledge of the products they sell," he said. "The service films provide an immediate method of sales

instruction, which in the past has, in many cases, been completely neglected."

First of the films deals with the basic principles of compression refrigeration and is considered by Norge as "the most unusual and the best presentation of refrigeration theory in the country." Described as readily understandable to both the layman and the apprentice service man, the picture illustrates the various cycle diagrams and changing state of refrigerant as it passes through the different components of a condensing unit.

Three films explain servicing of the Rollator open-type systems and two are on the sealed-in systems. The last four cover servicing of the Norge gas range, electric range, oil-burning home heaters, and washer.

"Heretofore, Norge service training meetings took up the better part of a week's time," Mr. Johnson commented. "We found that interest was high at the outset, but that it lagged as the week progressed.

"Furthermore, we found that the men in charge of the programs presented the same subjects in different ways. No two meetings were alike. Instructors had no visual material to work with.

"Our new program can be staged in two days with four comparatively short sessions. Each film showing lasts only 15 minutes, and is followed by a discussion period. There are no long-drawn-out sessions."

Field work was to be handled by the following Norge service representatives: Mr. Dayton, C. R. Anderson, J. W. Cantrell, L. L. Hope, W. V. McKenzie, E. G. Wooster, and W. J. Hinshaw.



Manager, Refrigeration
and Air Conditioning
Division, Perfex Corp.

Both necessary to
REFRIGERATION MAINTENANCE

THAWZONE...

THE MOVING DEHYDRANT... CIRCULATES AND SEARCHES OUT MOISTURE, DESTROYING IT CHEMICALLY. FOR NEW AND RECONDITIONED UNITS, AS WELL AS OLD.

TRACE...

A HIGHLY EFFECTIVE REFRIGERANT LEAK DETECTOR. ITS STABLE VIVID RED COLOR REVEALS LEAKS INSTANTLY IN OLD OR NEW SYSTEMS.

HIGHSIDE CHEMICALS CO.
195 VERONA AVE. NEWARK 4, N. J.

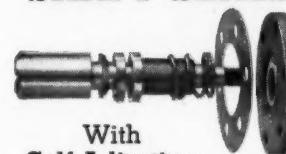
THAWZONE

PATENTED

The Pioneer Fluid Dehydrant

T
TRACE
REFRIGERANT
LEAK DETECTOR

Specify CHICAGO SHAFT SEALS VALVE PLATES



With
Self-Adjusting
Sleevlock.



Only Chicago valve plates have replaceable seats.

CHICAGO SEAL CO.
20 NORTH WACKER DRIVE • CHICAGO 6, ILL.

*"Install 'em
and Forget 'em!"*

No Contact
Maintenance—
No Trouble...
with Allen-Bradley Starters

On so many refrigeration and air-conditioning installations, there is no regular inspection of the equipment. Motor starters are seldom serviced. That's why it is so important to install motor starters that do not require regular inspection.

Specifically eliminates the possibility of trouble. There is only one moving part—the solenoid plunger. No pins, pivots, hinges, or bearings to cause trouble, and no flexible conductors to break. It's a trouble-free starter!

Low Drop-Out Voltage

Another advantage of Allen-Bradley solenoid starters is the high magnetic efficiency. That means that if the voltage happens to dip momentarily, the starters won't drop out and shut down the equipment. Do away with costly shutdowns by specifying trouble-free Allen-Bradley Solenoid motor control. Write for full information.

Allen-Bradley Co.
1313 S. Second St., Milwaukee 4, Wis.



Bulletin 709, Size 2, across-the-line solenoid starter with cover removed to show starter mechanism. The white interior reflects light, illuminates the starter in dark locations. Note the generous space for wiring.

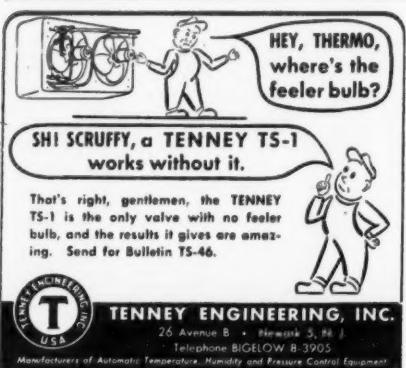
ALLEN-BRADLEY
SOLENOID MOTOR CONTROLS
QUALITY



HASCO, INC.
GREENSBORO, N.C.
PART NO. 7-9
*Packed in Special
Cardboard Boxes or Containers*

HASCOBILT
Parts
for Conventional and
Hermetic Type Compressors
Write for illustrated catalog and price list.

HASCO, INC.
GREENSBORO, N.C.



PURO ELECTRIC WATER COOLERS

BRANCHES IN PRINCIPAL CITIES
MAIN OFFICE 440 LAFAYETTE ST. New York 3, N. Y.
PURO FILTER CORP. OF AMERICA
DRINKING WATER SPECIALISTS FOR 40 YEARS.

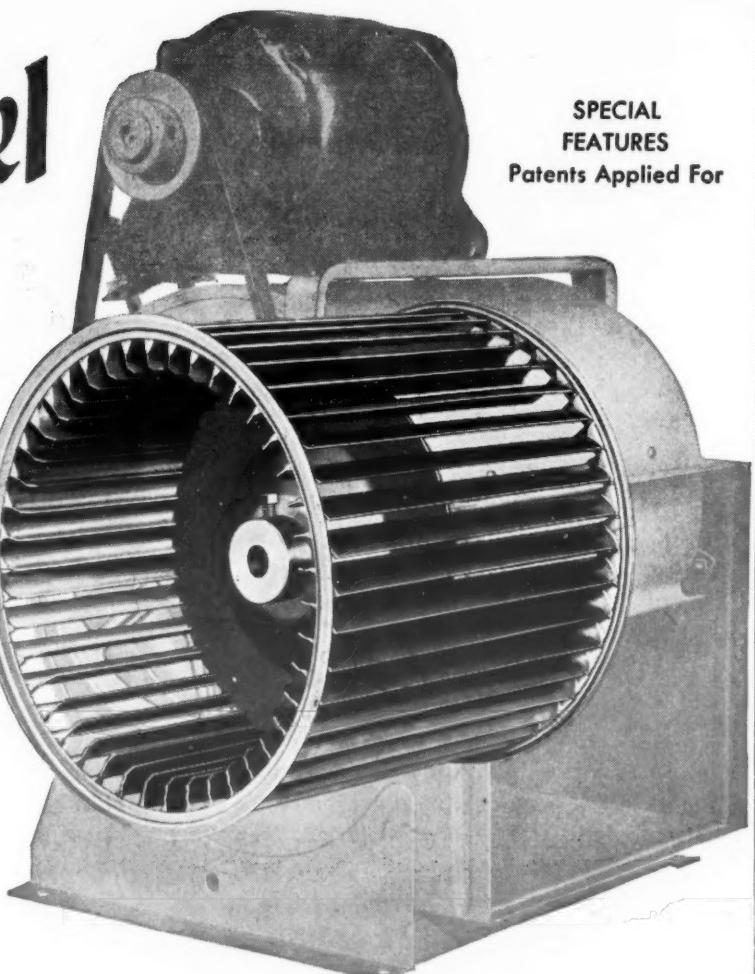
Manufacturers of COMMERCIAL REFRIGERATION
Look for the "LACROSSE" emblem for Assurance of Quality and Performance.
Walk-in, Beer Dispensing and Beverage Coolers
BLUE RIBBON FARM MILK COOLERS
LACROSSE COOLER CO. LACROSSE, WISCONSIN
Formerly La Crosse Novelty Box Mfg. Co.

★ ANOTHER SENSATIONAL PRODUCT DEVELOPMENT OF THE LAU BLOWER COMPANY ★

New Lau Blower Wheel

SERIES "A"

For LAU SERIES "A" BLOWER ASSEMBLIES



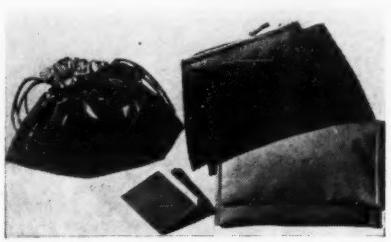
SPECIAL FEATURES
Patents Applied For

- CENTER SUSPENSION —proved far superior to other types of construction
- EACH BLADE A DRIVEN BLADE mechanically locked to center disc
- DEEP BLADE proportioned for maximum efficiency
- BLADE SCIENTIFICALLY PITCHED
- NARROWER END RING eliminates any obstruction to air flow into the wheel
- SUPERIOR PERFORMANCE
- GREATER MECHANICAL STRENGTH AND CONCENTRICITY
- PRECISION BALANCED
- EXHAUSTIVELY TESTED for strength and delivery
- ALL PARTS DIE-STAMPED
- —from HEAVY GAUGE COLD ROLLED STEEL
- WHEEL THOROUGHLY CLEANSED of dirt or grease —coated with a hi-bake enamel



WORLD'S LARGEST MANUFACTURER OF FURNACE BLOWERS

Engineers and fabricators of general Air Handling Equipment • Single Inlet and Double Inlet Blowers • Propeller Fans • Accessories



Shopping Bag Preserves Frozen Food for 8 Hours

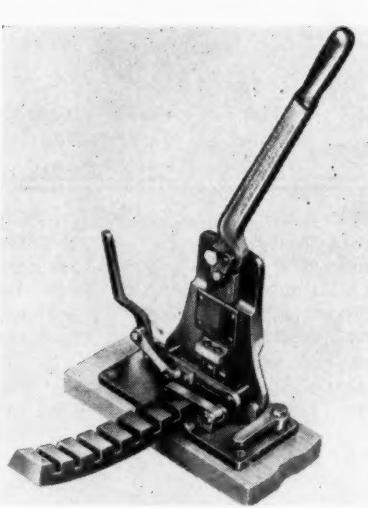
NEW YORK CITY—Instead of immediately dashing back home with frozen food purchases, housewives may shop early in the morning, schedule a trip to the beauty parlor, a luncheon date, and a movie, and arrive home just in time to prepare dinner.

This is made possible, it is claimed, by the new Fiberglas interlined utility bags that reportedly preserve frozen food for eight hours or more without the slightest trace of melting, according to Hilton Epp, technical director of Aeronautical Supplies, Inc., here.

Ice cream, milk, butter, and iced bottled drinks are some of the other products that will benefit from storage in the Fiberglas interlined bags, thereby indicating a sizeable market for the product among picnic fans, it is said.

Manufactured in a zipper style, a fold over model, and a drawstring Mother Hubbard version, the bags have lacquered Neoprene linings and Fabrikoid coverings.

Retailing for about \$6, the utility bags are on sale in leading stores throughout the country.



Device Reduces Time for Belt-Splicing Operation

OMAHA, Neb.—Providing an accurate, fast method for cutting and punching belts for air conditioning and generating equipment, a new belt splicer has been developed by Paxton-Mitchell Co. here.

P-M belt splicers, which the company claims can cut the splicing operation from 15 to two minutes, are made for use on 2 in. cog V-belts, 1 in. and 2 in. solid V-belts, and 4 in. and 5 in. flat belts.

The operating principle is identical

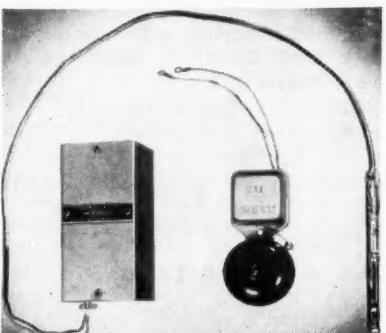
for each type of belt, the manufacturer says.

When properly inserted in the tool, belts are cut and punched in the same operation to match standard splice fittings. Provision is made for handling various types of splice fittings by the use of different types of punches, it is said.

The 2 in. V-belt splicer types are equipped with an auxiliary knife which grooves solid belts in order to permit the entrance of the splice fitting lip.

The splicer for flat belts is equipped for handling various bolt arrangements. A simple change in the tool permits the splicing of two, three, or four-bolt coupling assemblies with the same splicer, the manufacturer states.

Work can be done at the installation, eliminating trips to the service shop, according to the company.



Kalamazoo Range Controls Plugged-In Cookers Too

KALAMAZOO, Mich.—Featuring completely automatic cooking, the Carlton model electric range manufactured by the Kalamazoo Stove & Furnace Co. starts, controls, times, and turns off food cooked in the oven, the well cooker, or any waffle iron, coffee maker, or other appliance plugged into the stove outlet, the company claims.

The Carlton, top model of Kalamazoo's three newly designed electric ranges, also contains a thermostatically controlled warming drawer which keeps foods at serving temperature and warms serving dishes and plates, it is said.

A large built-in top lamp illuminates the entire cooking and working surface of the 40 in. range. An interval timer announces when food is done, and a warning light indicates when any units are in operation, according to the manufacturer.

Units on all of the new electric ranges have seven cooking speeds. They provide all the degrees of cooking heat for every job from slow simmer to fast fry, the firm declares. They are claimed to bring two quarts of water to a boil from a cold start in eight and one-half minutes.

The giant and two regular speed units have flat surfaces that provide maximum direct contact heat. They are hinged so that they cannot get out of place and they lift up for cleaning, the company said.

The well cooker, which also has seven speeds, is equipped with cooker pan, trivet, and fry basket. It has a seven quart capacity.

Said to hold a 20 lb. turkey comfortably, the Savorseal oven is 17 in. wide, 19 1/4 in. deep, and 16 1/2 in. high.

Two units quickly pre-heat it. Then, when the desired temperature is reached, the broiler burner turns off automatically.

The non-spatter broiler pan and grid has 10 broiling positions. The oven door is adjusted to stand open at the exact position for smokeless broiling, the company claims.

STANDARD

Prime Surface COLD PLATES

For Maximum
Refrigerating Efficiency



THE STANDARD-DICKERSON

CORPORATION
46-76 Oliver Street • Newark 5, N. J.
STANDARD KNOWS REFRIGERATION

Copyright 1945 by The Standard Dickerson Corporation

Refrigeration, Appliance Prices Hold Line-- 'Freon' Deliveries--

(Concluded from Page 1, Column 5)
Some observers believe that the copper producers may be waiting for the price established by Metals Reserve Corp., the government agency which controls large stocks of copper.

However, with subsidies off for the marginal producers and with the knowledge that copper producers have been seeking an increase for some time, it is believed that without controls the price of ingot copper will be certain to rise.

Such a rise would no doubt be reflected in the price of copper tubing and in brass valves and fittings used in the refrigeration industry. One leading manufacturer of copper tubing stated that no increase in price was contemplated unless it were necessary to reflect increased costs.

SERVICE PRICES STAY SAME

Two Detroit service contractors say they are making no plans to increase prices merely because OPA no longer exists. The same view was expressed by a distributor of commercial equipment and an air conditioning contractor.

One large oil burner and cooling contractor in Detroit, whose service charges had been frozen by OPA at the March, 1942, level of \$2.50 per hour, has not increased this price, he reports. Although this rate is somewhat less than many other firms have charged, he plans to keep it at this level for at least the month of July. He believes that some law may be passed this month which will hold prices at about their present levels, and he does not want to be forced into reducing his prices just after he raised them.

The local representative of a service contracting "chain" which operates in several major cities said that no instructions to change prices had been received, and that he was "sitting tight" on prices for the time being.

HEATING CONTRACTORS MAKE PUBLIC PLEDGE

In a large advertisement in local papers last week the 10 heating contractors who comprise the Air Conditioning Institute of Detroit announced that they had agreed not to increase prices of heating equipment or installations because OPA price ceilings had been removed.

"Further," stated the advertisement, "that it is the policy of the Institute in future to increase prices of its products only when its own labor and material costs increase—and then only to the extent of such cost increases to its members."

The members listed below will give advice, free of all cost, to any purchasers of this type of equipment who have reason to believe they are being overcharged," it declared.

Member contractors listed included the Detroit Gas Burner Co., T. H. Brehm, Hudson Heating Co., Central Heating Co., Season Aire Co., Turnbull Heating, Colonial Heating Co., Leeson Air-Conditioning, Okray Heating Co., and the A. V. Cauhorn Co.

FIXTURE MANUFACTURERS ADVISED TO STAY ACTION

J. H. Coolidge of Sherer-Gillett Co., chairman of the OPA Commercial Refrigerator Industry Advisory Committee, sent out the following telegram to manufacturers of display

cases and other types of commercial refrigerators:

"Although OPA expired and industry now has complete freedom of action believe it unwise for anyone to take unreasonable advantage. Doing so may bring serious repercussions especially wage demands and help start vicious spiral. Strong possibility congress will rush some form of price freezing in matter of days."

The Commercial Refrigerator Manufacturers Association further advised its members as follows:

"Another possibility is that Congress will hurriedly jam through a measure to restore some or all controls. If retroactive and the affected sellers cannot show that the revisions they made in the intervening period were justified by labor and material increases previously absorbed (by reason of OPA adjustment they could not pass on), a roll-back would be painful."

Milwaukee Distributors

Vote for 5-day Week During July, August

MILWAUKEE—All but two wholesale appliance distributors here favor closing up shops all day Saturday in July and August, the other two voting for afternoon closing only, according to a poll taken by the Wisconsin Radio Refrigeration & Appliance Association.

Five distributors are closed now all day Saturday, being on a permanent 40-hour, five day week. One firm is on a permanent 42-hour week, according to the poll.

Four others spoke in favor of remaining closed on Saturday after August as a permanent policy. Two expressed opposition to a 40-hour week.

Noma International, Inc. To Handle Noma Exports

NEW YORK CITY—Noma International, Inc., is the new name of Noma Electric Corp.'s export agency, formerly known as Triumph International, Inc., according to an announcement by Dr. A. L. Buschman, president.

A wholly owned subsidiary of Noma Electric, Noma International handles foreign sales of all Noma products and those of its subsidiaries.

New Guide Gives Data on Sun Refrigeration Oils

PHILADELPHIA—A service guide to the use of Suniso refrigeration oils has been issued by the Sun Oil Co. here.

This guide, printed in the form of a six page folder, describes the characteristics of Suniso oils and recommends a particular grade of oil for the refrigeration compressors of 50 firms and the air conditioning units of 28 firms. It also lists the grade of oil required for each type of compressor according to refrigerant used, and for the bearings of electric motors and fans.

(Concluded from Page 1, Column 2)

United States ordered enough 'Freon-12' to cover them for the whole season and many others took the opportunity to lay in heavy supplies," he explained.

The company says it placed orders for new cylinders last November, but volume deliveries did not begin until this month. The worst is now over, the company believes.

"In the meantime, we are taking care of such cases as definitely prove that they cannot secure the refrigerant in the market, and we know of no instances where work is actually being held up because of inability to obtain the refrigerant," an official said. "It is probable that jobbers' stocks are lower than they have been since the war ended but they should be adequate to take care of all needs."

"There are enough cylinders of 'Freon' out, either empty or full, equivalent to eight months' orders at the current rate. It is also apparent that for some years there will be less off-the-shelf buying by consumers. The rate of cylinder return has slowed up and in consequence we have placed large orders for them in order to balance shipments with return of empties."

Carr Appliance Formed

BUFFALO—Carr Appliance Co., Inc. has been incorporated here with capital of 200 shares. Incorporators are Nora G. Carr and Joseph W. Elardo of Buffalo, and Vincent T. Ray of Kenmore.

Represents Peerless



AUSTIN L. BROWN

* * *

CHICAGO—Austin L. Brown, for the past four years an estimating engineer for York Corp., has just been appointed Southeastern representative for Peerless of America, it is reported by M. W. Knight, general sales manager.

With headquarters in Marietta, Ga., Mr. Brown will cover Florida, Alabama, Mississippi, Georgia, Louisiana, and Tennessee.

Mr. Brown first started in the refrigeration field 10 years ago when he became associated with the Atlanta branch of Fedders Mfg. Co. He was promoted to district manager and held this post until 1942 when he joined York.

New Price Bill Hits

Cost Absorption

(Concluded from Page 1, Column 2)
and provides that added costs be computed on an industry-wide, rather than a specific unit, average basis. In addition, various exceptions are provided to give wide latitude to the OPA.

The Wherry amendment in the vetoed bill specified that ceilings for distributors, wholesalers, and retailers must allow them their Jan. 1, 1946, markups or discounts based on current costs.

Under the revised version, OPA would be required to make "due allowance" for current costs, plus the percentage discount or markup in effect June 29.

The Crawford amendment, which is unchanged in the proposed new bill, specifies that OPA may not interfere with the normal profit margins of dealers handling "reconversion" items, whose production was curtailed by the war. (This would include refrigerators and most major appliances). It would end OPA's practice of requiring dealers in such items to absorb a portion of the increased manufacturers' costs. It is generally believed this provision would be retroactive.

Other important provisions are the fact that the bill would extend controls until June 30, 1947, and that price decontrol on specific items would be determined by a three-member, bi-partisan board to be appointed by the President subject to Senate confirmation.

Another usAIRco First!



New! 2-STAGE
EVAPORATIVE
CONDENSERS

usAIRco 2-Stage Evaporative Condensers now provide the high cooling efficiency of finned tube coils plus the economy and cleanability of bare tube coils. The result: A newer, better method of condensing refrigerating gases.

The condensing coils are 2-stage; the first stage (primary coils) removes the sensible superheat from the gas. These primary coils are bare tubes and made easily accessible so that deposits from evaporated water on the high temperature coils may be readily removed. The

secondary coils remove the latent heat from the gas and condense the refrigerant to a liquid. These coils are of the finned tube type for maximum efficiency and economy in cooling the gas. (Patent has been applied for on this new method of condensing gases.)

usAIRco 2-Stage Evaporative Condensers are receiving wide enthusiastic acceptance by air conditioning and refrigerating engineers for use wherever water is not excessively hard. You'll want to use them on your next job!

Write for Bulletin No. 87 today!



UNITED STATES AIR CONDITIONING CORPORATION

Manufacturers of a Complete Line of Air Conditioning Equipment

NORTHWESTERN TERMINAL • MINNEAPOLIS 13, MINNESOTA

**Don't Miss
the 1946
TRADE-IN MANUAL!**

**The only COMPLETE
MANUAL & DEALER GUIDE
on Household Refrigerators**

More than 900 Photographs—
and Dependable Trade-in Values.
Identify Every Key Refrigerator Model Manufactured Since 1928 with
this invaluable Reference.

POCKET SIZE - 256 PAGES - ONLY \$5 A COPY

Send your money order or check with order
today! Request C.O.D. shipment if you prefer.

STANDARD REFRIGERATOR TRADE-IN MANUAL CO.
503 West 43rd Street, New York 18, N. Y.

**AUDEL'S
REFRIGERATION
and AIR CONDITIONING GUIDE**

JUST OUT! 4 Books in One!



Covering:
1. Domestic Appliances:
Service, Repair of
1. Household
Refrigeration
2. Special Refrigeration
3. Commercial & Industrial
Refrigeration
4. Air Conditioning

A gold mine of essential important facts for ENGINEERS, USERS AND SERVICEMEN. Here you have at your fingers' ends a complete library in ONE VOLUME—the necessary data you have been looking for on: MODERN UNITS, AIR MACHINES, REFRIGERANTS, REFRIGERATION SYSTEMS, AIR COOLERS & AIR CONDITIONING SYSTEMS.

ANSWERS YOUR QUESTIONS.
1280 Pages, 46 Chapters all Fully Illustrated & Indexed for Ready Reference

4 COMPLETE • PAY ONLY \$1 A MONTH
CUT HERE ——————

MAIL ORDER

Please send me postpaid, or FREE EXAMINATION books marked (X) below. If I decide to keep them I agree to mail \$1.25 on each book, one month after receiving my first issue. I understand that I have paid price.

REFRIGERATION & Air Conditioning, 1280 Pages, \$4.
 POWER PLANT ENGINEERS Guide, 1500 Pages, 4.
 PUMPS, HYDRAULICS & AIR COMPRESSORS, 1658 Pages, 4.
 WELDERS GUIDE, 400 Pages, 1.
 BLUE PRINT READING, 416 Pages, 2.
 SHEET METAL WORKERS Handy Book, 588 Pages, 1.
 SHEET METAL PATTERN LAYOUTS, 1100 Pages, 4.
 AIRCRAFT WORKER, 240 Pages, 1.
 MATHEMATICS & CALCULATIONS, 700 Pages, 2.
 MACHINISTS Handy Book, 1600 Pages, 1.
 MECHANICAL DICTIONARY, 968 Pages, 4.
 AUTOMOBILE GUIDE, 1540 Pages, 4.
 DIESEL ENGINE MANUAL, 400 Pages, 4.
 MARINE ENGINEERS Handy Book, 1280 Pages, 4.
 SHIPPIERS Hand Book, 272 Pages, 1.
 MECHANICAL DRAWING COURSE, 160 Pages, 1.
 MECHANICAL DRAWING & DESIGN, 480 Pages, 4.
 MILLWRIGHTS & Mechanics Guide, 1200 Pages, 4.
 CARPENTERS & Builders Guides (4 vols.)
 PLUMBERS & Steamfitters Guides (4 vols.)
 MASONS & Builders Guides (4 vols.)
 MASTER PAINTER & DECORATOR, 320 Pages, 2.
 GARDENERS & GROWERS GUIDES (4 vols.)
 ENGINEERS and Mechanics Guides
Nos. 1, 2, 3, 4, 5, 6, 7 and 8 complete . . . 12.
 Answers on Practical ENGINEERING
ENGINEERS & FIREFMANS EXAMINATIONS . . . 1.
 ELECTRICIANS EXAMINATIONS, 250 Pages . . . 1.
 WIRING DIAGRAMS, 210 Pages . . . 1.
 ELECTRICAL DICTIONARY, 9000 Terms . . . 2.
 ELECTRICAL POWER CALCULATIONS, 425 Pages . . . 2.
 HANDBOOK OF ELECTRICITY, 1340 Pages . . . 2.
 RADIOMAN'S GUIDE, 914 Pages . . . 4.
 ELECTRONIC DEVICES, 216 Pages . . . 2.
 ELECTRIC LIBRARY, 12 vol., 7000 Pages, \$1.50 vol.

AUDEL, Publishers, 49 W. 23 St., NEW YORK.

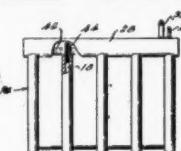
ASK TO SEE THEM!
Get This Information for Yourself. Mail coupon today. No obligation unless O. K.

Name _____
Address _____
Occupation _____
Employed by _____ R-12

PATENTS

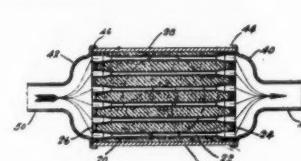
Week of June 11

2,401,793. REFRIGERATING APPARATUS. Lawrence A. Philip, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Application May 29, 1944, Serial No. 537,809. 2 Claims. (Cl. 22—126.)



1. In a refrigerator having refrigerant evaporator, compressor, and condenser elements, the evaporator comprising a substantially U-shaped extruded member having a plurality of spaced parallel passages, spaced headers positioned at opposite ends of said parallel passages, connecting means between one of the headers and the compressor, connecting means between the other of the headers and the condenser, and pressure equalizing means between said headers comprising a tube of lesser length than said passage positioned in one of said parallel passages and projecting into its associated header with its entire inlet end being above the liquid level therein.

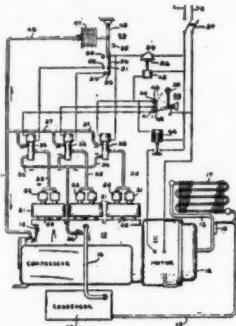
2,401,797. HEAT EXCHANGER. Olaf Rasmussen, Dayton, Ohio, assignor to General Motors Corp., Detroit, Mich., a corporation of Delaware. Application Dec. 27, 1943, Serial No. 515,734. 1 Claim. (Cl. 210—150.5.)



A combination filter and cooling device comprising a block of highly porous bronze made from sintered, substantially non-compacted metal powder, a plurality of copper tubes running through said block and metallurgically bonded thereto, said tubes being embedded in the block prior to said sintering operation whereby bonding and sintering are accomplished simultaneously, a housing for said block including header portions at each end of said block and around the ends of said tubes so that a fluid can be circulated through said tubes, and a second pair of headers associated with said housing for closing the same whereby another fluid can be circulated through said porous metal block.

2,401,827. REFRIGERATING APPARATUS. Regis D. Heitche, Springfield, Mass., assignor to Westinghouse Electric

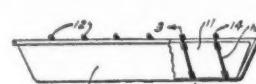
Corp., East Pittsburgh, Pa., a corporation of Pennsylvania. Application Sept. 6, 1943, Serial No. 501,384. 8 Claims. (Cl. 62—3.)



1. In a refrigerating system having a high-pressure side including a refrigerant condenser and a low-pressure side including a refrigerant evaporator for cooling a media, the combination of a refrigerant compressor for withdrawing refrigerant from the low-pressure side of the system and compressing it into the high-pressure side of the system, a prime mover for driving the compressor, said refrigerating system having active and inactive periods and having a high pressure prevailing in the low-pressure side of the system after an inactive period of such duration that the evaporator approaches ambient temperature, means for partially unloading the compressor during the first part of the active period of the system following said last-mentioned inactive period after said prime mover has reached its normal operating speed and for maintaining said compressor partially unloaded until the pressure in the low-pressure side of the system approaches the value normally prevailing therein during an active period, and means for controlling the pressure in the low-pressure side of the system to maintain the same at a substantially constant average value during said active periods, said last means comprising unloading means for fully loading the compressor at one pressure prevailing in the low-pressure side of the system and for partially unloading the compressor at lower pressures in the low-pressure side of the system.

2,401,834. ICE TRAY. Roy C. Yantis, Greenville, Mich., assignor, by means assignments to Gibson Refrigerator Co., Greenville, Mich., a corporation of Michigan. Application Jan. 24, 1942, Serial No. 428,019. 2 Claims. (Cl. 62—108.5.)

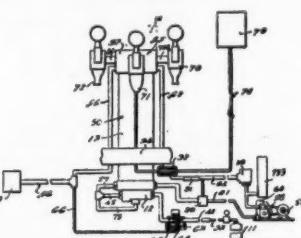
1. An ice tray grid comprising a one piece longitudinal partition and a plurality



of spaced apart parallel relatively rigid one piece transverse partitions firmly attached to the longitudinal partition, said transverse partitions having reinforcing beads adjacent their upper edges, said longitudinal partition being relatively

flexible and extensible and substantially bisecting each transverse partition.

2,401,915. DISPENSING APPARATUS. Carmelo V. Di Pietro, Birmingham, Mich. Application Dec. 1, 1942, Serial No. 467,547. 10 Claims. (Cl. 261—11.)



1. A carbonator comprising three telescoped shells spaced from each other and forming three chambers, the innermost and intermediate chambers being in open communication at their head ends, a mixing device for water and carbon dioxide gas in communication with the base portion of the intermediate chamber, refrigerating means in the outer chamber, metal wool substantially filling the innermost chamber, a dispensing tube for the water and gas mixture in the innermost chamber and extending through the intermediate shell, the tube communicating with the base portion of the innermost chamber, a conduit for water coiled in the outer chamber, a water dispensing tube extending through the mixture dispensing tube, and means connecting the coiled conduit with the mixing device and with the water dispensing tube.

AVAILABLE FOR LICENSING OR SALE

Pat. 2,272,750. REFRIGERATED APPLE VENDING MACHINE. Patented Feb. 10, 1942. Apples are kept at proper temperature and delivered one at a time; may be wrapped in cellophane if desired. Insulated housing of baked enamel or other ornamental corrosion resistant material. Patent shows motor-actuated electrical refrigerating unit in compartment forming top of machine, but dry ice or other suitable refrigerant may be utilized. This compartment may be separately constructed and removable as a unit, or formed integral with rest of housing. Within the housing is mechanism for supporting and vending fruit, including a movably supported, upright, endless conveyor carrying spaced trays. This mechanism is also constructed as a separate unit so that it may be lowered into housing. A coin operated mechanism of any standard type is provided so that when an electrical circuit is completed, a motor is actuated to move conveyor and an apple delivered down an inclined chute to front of machine. Conveyor may be moved by hand when filling machine. (Owner) Ira M. Miller, Suite 230, Miller Building, Yakima, Wash. Group 35—73. Reg. No. 2,841.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$2.50 per insertion. Limit 50 words.

RATES for all other classifications \$5.00 per insertion. Limit 50 words.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

PAYMENT in advance is required for advertising in this column.

POSITIONS WANTED

YOUNG MAN, 28, former U. S. Navy civilian technician, 10 years experience in Commercial Refrigeration and Air Conditioning, seeks permanent position as service manager, field engineer, or assistant to applications engineer. Good technical and educational background. New England preferred but will consider other location. Box 2019, Air Conditioning & Refrigeration News.

FACTORY REPRESENTATIVE position wanted. 15 years experience in Commercial Refrigeration Sales and Service. Want permanent position in midwest or western territory. Box 2021, Air Conditioning & Refrigeration News.

GRADUATE Air Conditioning & Refrigeration Engineer. Seven years experience. Now dissolving my own contracting business. With Carrier Corp. as contract engineer for three years. Am capable of selling, estimating, engineering, and supervising installations. Prefer sales engineering work in Eastern location. Salary \$6,000. Box 2022, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

REFRIGERATION and air conditioning service man to take charge of small service department. Must have thorough knowledge of refrigeration and be familiar with air conditioning service and installation. Permanent, pleasant position with good salary to right man. BETTLEM HEATING CO., Carrier Dealer, 1926 East Ave., Rochester 10, N. Y.

REFRIGERATION SERVICE MEN: Distributor in Northern Ohio city desires two experienced service men for commercial equipment, locker plants and air conditioning, no Ammonia. Excellent working conditions—hourly rate—overtime—bonus—paid vacation; give experience, age, nationality, and enclose photograph in first letter. Box 2012, Air Conditioning & Refrigeration News.

WANTED Sales and Application Engineer on lowside equipment in Chicago area. Please state previous experience. Box 2015, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

FOR SALE: 10,000 new aluminum ice cube trays in three popular sizes. Also air-cooled and water-cooled remanufactured condensing units 1/4 up to 2 hp. Write for particulars. EDISON COOLING CORP., 310 E. 149th St., Bronx 51, N. Y.

STEEL ISLANDS and shelving for super markets, groceries, and delicatessen stores. White Porcell finish trimmed with black. Immediate delivery. MAGIC TEMP CASE & COOLER CO., 311 John St., Utica, N. Y.

SEALED CROSLEY units with leaky terminals can be repaired by you in a few minutes without opening the compressor. Set of three outside replacement terminals \$6.75 (Part No. 1020). Installation tool \$1.65. Fits all Crosley "F-12" units. Immediate delivery. Money-back guarantee. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

SEALED WESTINGHOUSE units with shorted, leaky, or grounded terminals can be repaired by using our replacement terminals. Set of three \$2.85 (Part No. 1030). Immediate delivery. Money-back guarantee. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

ICE CREAM cabinets, 4-6-8-10-12 hole, less units. Immediate delivery. Eskimo freezers. WILSON FREEZERS, INC., 837 Tilden St., N. Y. C.

BUSINESS OPPORTUNITY

OLD ESTABLISHED Refrigeration business, good franchise on commercial and domestic refrigeration equipment. Making good profit, owner having to change climate, doctor's orders. Located in good Georgia town, population about 65,000. Will take around \$20,000 to handle. Box 2016, Air Conditioning & Refrigeration News.

For COMPETENT PHOTOGRAPHIC SERVICE in the U.S. and Canada, deal with professional photographic studios which display this emblem.

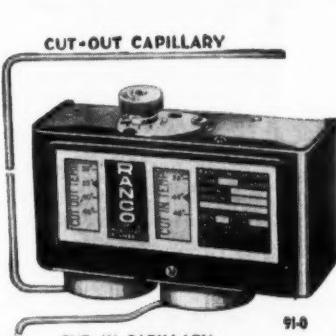
SORRY, our supply of the 1946 Directory, listing competent photographers all over the country, is exhausted. However, if you will write us, we shall be glad to see that you receive the 1947 issue, which will be available early in the year.

Write to Charles Abel, Executive Manager, THE PHOTOGRAPHERS ASS'N OF AMERICA, 520 Cuxton Building • Cleveland 13, Ohio

HEAT TRANSFER EQUIPMENT

MARLO COIL COMPANY
SAINT LOUIS, MISSOURI

WANT MORE \$\$\$ FOR YOUR TIME AND EFFORT? INSTALL RANCO CONTROLS

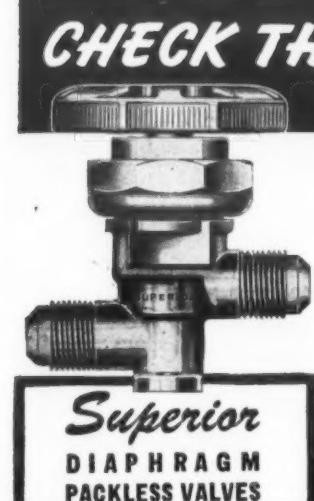


Type 91-O Interlocking
Two-Temperature Control
For single or multiple unit systems.

- \$ A special Ranco Control for every pressure and temperature demand—plus simple construction—assures easier, faster installation—saves time—allows you to serve more customers.
- \$ Perfection of design, materials and operation guarantee customer satisfaction—future business.
- \$ See your Ranco Jobber he'll help you select the right control for the job—with more profit to you.

Ranco Inc. Columbus 1, Ohio

CHECK THESE FEATURES



The only diaphragm packless valve with the internal assembly removable as one complete unit... a valuable feature when it comes to soldering lines to the valve connections. No need to break the diaphragm seal... simply remove the internal assembly as a unit... solder the connections... and replace the assembly. No fuss... no bother... no special tools... and above all, no damage to vital parts. What could be simpler!

But that's not the only important feature of these SUPERIOR DIAPHRAGM PACKLESS VALVES! Pressure responsive cup forms positive pressure-tight seal... permitting replacement of the diaphragm with full pressure in the valve... or even actual operation of the valve without the dia-

phragm... in an emergency.

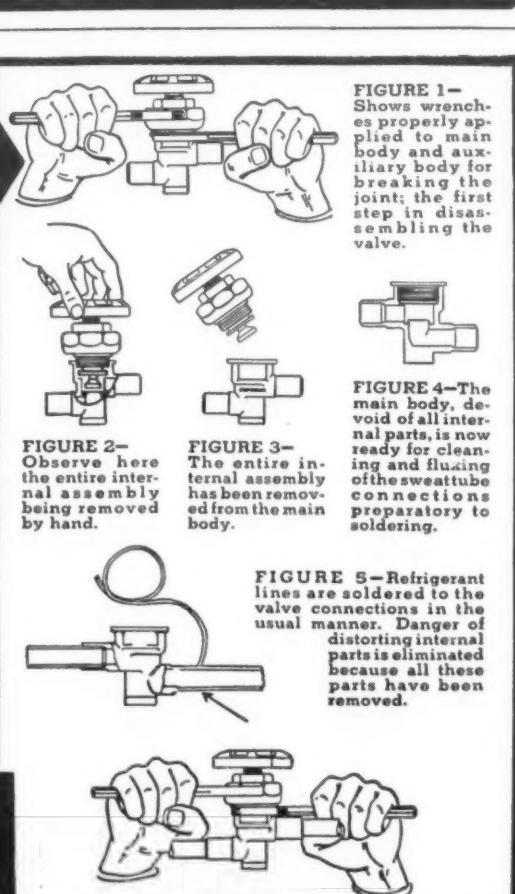
Rugged, pleasing appearance—ease of operation—generous openings—extra long life—all these are standard features of the valve.

If you haven't a copy of Catalog R2, request one today.

No. 122

SUPERIOR VALVE & FITTINGS COMPANY
PITTSBURGH - 26 - PENNSYLVANIA

OFFICES IN PRINCIPAL CITIES • STOCKS CHICAGO (6) • LOS ANGELES (15) • JOBBERS EVERYWHERE



CLEVELAND—Herbert F. Koether has been appointed manager of the midwest division for the Apex Electrical Mfg. Co. here, it was announced by A. C. Scott, vice president in charge of sales.

From headquarters in the Merchandise Mart, Chicago, Mr. Koether will direct sales and merchandising in an 11 state area, according to Mr. Scott.

During his business career, Mr. Koether has been vice president and assistant general manager of Ryal's, Inc., a large appliance chain store in Detroit, and a district manager of Nineteen Hundred Corp. of St. Joseph, Mich.

From Army to Appliances...

BUFFALO—Appointment of F. Scott Griswold as general manager of Maisel's Electrical Appliances, was announced by Alexander Maisel, owner of the store. Mr. Griswold recently resigned from the U. S. Corps of Engineers to return to the appliance field.

Low Temperature Tests Show Drop In Heat Conductivity of Common Insulators

Expansion and Specific Heat of 8 Insulators Examined in Experiment, MIT Professor Tells ASRE

ST. PAUL—The thermal conductivity of common insulation materials is appreciably reduced at low temperatures, Prof. Gordon B. Wilkes of Massachusetts Institute of Technology reported at the recent spring meeting of the American Society of Refrigerating Engineers following experiments conducted at temperatures as low as -300° F.

These studies were made for the Cork Insulation Manufacturers Association, and in addition to thermal conductivity, included research into expansion and specific heat of the insulators.

Eight types of insulators were examined. These comprised two samples of corkboard, glass fiber board, expanded glass block, vegetable fiber board, mineral wool board, expanded rubber board, shredded redwood bark, and reflective coated steel insulation.

As shown in Table 1, all types of the insulation tested were characterized by a drop in their conductivity rating of K factor (B.t.u./hr./in./°F.). One sample of corkboard, for example, which had a K factor of 0.268 at a mean temperature of 115°, was found to have a K factor of 0.201 at a mean temperature of -108° F. (This mean temperature represents 63° F. on the "hot" side and -278° F. on the cold side.)

These tests were undertaken, ex-

plained Prof. Wilkes, because the lower limit of commercial low temperature work has been extended very materially during the past few years.

"The testing of aeronautical equipment frequently requires temperatures of -75° F. or below and the large scale storage of liquefied gases demands temperatures in the neighborhood of -300° F. Insulation, sometimes 3 ft. thick, is of vital importance in maintaining these temperatures but relatively little information of the physical properties of these insulators at extremely low temperatures has been available," he declared.

Special test equipment was constructed for these studies, using liquid oxygen to produce temperatures in the neighborhood of -300° F. and a mixture of dry ice and toluene for -109° F. temperatures.

A separate instrument was used for testing reflective insulation, because, explained Prof. Wilkes, "with reflective insulation we have the unusual condition that the quantity of heat transferred varies with the $\frac{1}{4}$ power of the temperature difference in one position but with the mean temperature if the direction of heat flow is reversed."

Results of tests on reflective coated steel insulation are listed in Table 2.

**TABLE 1
Tests of Thermal Conductivity**

Material	Density lbs. per cu. ft.	Thickness in.	t_2 ° F.	t_1 ° F.	Mean temp. ° F.	K
Corkboard A	7.07	2.02	162	68	115	0.268
	7.07	1.12	-101	73	-14	0.233
	7.07	1.12	-278	63	-108	0.201
Corkboard B	6.70	1.99	169	73	121	0.264
	6.70	1.04	-103	62	-21	0.242
	6.70	1.04	-283	54	-115	0.204
Average corkboards A, B					118	0.266
					-17	0.238
					-112	0.203
Glass fiber board	11.0	2.02	157	81	119	0.282
	11.0	1.00	-97	65	-16	0.213
	11.0	1.00	-269	47	-111	0.168
Expanded glass block	10.6	2.05	178	74	126	0.432
	10.6	1.07	-96	52	-22	0.409
	10.6	1.07	-261	42	-110	0.381
Vegetable fiber board	14.4	1.97	141	79	110	0.338
	14.4	1.02	-97	50	-24	0.284
	14.4	1.02	-256	37	-110	0.248
Expanded rubber board	4.9	2.01	171	75	123	0.223
	4.9	1.00	-96	52	-22	0.206
	4.9	1.00	-248	49	-100	0.173
Shredded redwood bark	3.9	2.00	148	80	114	0.309
	4.0	1.00	-102	52	-25	0.208
	4.0	1.00	-280	43	-119	0.172
Mineral wool board	14.3	2.02	166	80	123	0.301
	14.3	0.99	-96	55	-21	0.208
	14.3	0.99	-264	41	-112	0.189

TABLE 2

Tests on Reflective Steel Insulation

Method of test	t_2 ° F.	t_1 ° F.	Mean t ° F.	Temp. drop per in.	Appar- ent K
<i>Horizontal Position—Heat Flow Downward</i>					
Special tester for reflective insulation	-102	-82	-92	19.5	0.056
	-105	-79	-92	25.2	0.067
	-101	-63	-82	37.5	0.116
	-92	38	-27	130.	0.184
	34	56	45	21.8	0.231
<i>Horizontal Position—Heat Flow Upward</i>					
Special tester for reflective insulation	-106	-90	-98	16.3	0.202
	34	56	45	21.5	0.222
	-103	-71	-87	32.7	0.309
Calculated from plate test	110	76	93	35.0	0.352
	169	87	128	81.5	0.457
Low temp. conductivity tester	-81	33	-24	114.	0.481
	-200	8	-96	207.	0.57

New Vice President



DAVID LEWIS

Large Cleveland Retail Store

Opens New Frozen Food Shop

CLEVELAND—William Taylor Son & Co., major retail store here, has opened a new frozen food shop.

The shop carries the Cease "Miracle-Meals" line, including 10 types of chicken, beef, stew, etc., and six pies. Prices range from 29 cents for a clam chowder package serving three to \$1.30 for chicken à la king. Pies are 69 cents each.

Frigid-Freeze Plans 15 Stores

RICHMOND, Va.—Frigid-Freeze Food Center of Virginia, Inc., recently chartered by the State Corporation Commission, has disclosed plans for the opening of about 15 stores throughout the state to deal in frozen foods, freezers, ranges, refrigerators and appliances.

First such store, it was announced, would open about June 15 at 208 East Broad St., Richmond. The building will be modernized.



PUMPS, TOO, SHOULD BE SEEN AND NOT HEARD!

TUTHILL Pumps are Built for QUIET, Dependable Service

There's no place for noisy pumping equipment in pressure lubrication service. That's why engineers everywhere specify Tuthill small pumps. These dependable, mechanically sealed pumps are engineered for quiet operation and long, carefree service with minimum power consumption. Capacities up to 3 g.p.m. in wide pressure ranges. Many mounting types and porting arrangements. Write for Tuthill Model L bulletin.

TUTHILL PUMP COMPANY

939 EAST 95TH STREET • CHICAGO 19, ILLINOIS



QUICFREZ Model No. 1245 12.5 Cu. Ft. with Separate Freezing Compartment and Divided Storage.

SINCE 1939...

With a long experience background in the building of Farm Locker Plants, SANITARY'S specialized skill and know-how in this field insure utmost customer satisfaction.

SANITARY REFRIGERATOR CO.

FOND DU LAC, WISCONSIN

REFRIGERATOR MANUFACTURERS FOR OVER 40 YEARS
FARM LOCKER PLANTS SINCE 1939

NEW TYPE REPLACEMENT SEAL
SPARTON and TRUKOLD
Eliminate Old Bellows Type Cup Seal
See Your Local Jobber
Write for Descriptive Literature and Price
WOOLSEAL CORPORATION
289 EAST 149TH STREET BRONX 51, N. Y.

New Credit Control--

(Concluded from Page 1, Column 3)
an instalment contract would be: If it's \$1,500 or less, Regulation W controls it.

Formerly, a man could borrow \$1,500 or less from a bank for an appliance purchase, and the bank's terms were not limited; but he couldn't buy the item from his dealer and get terms longer than one-third down and 12 months to pay. Amendment 20 merely puts the credit agency and the loan agency on an equal footing; they're both covered.

ATTIC FANS RELEASED

3. Attic ventilating fans are taken out from under the regulation.

The terms of the new amendment, as finally issued by the board of governors of the Federal Reserve System, were a distinct disappointment to the various groups that have been working for easier credit terms for veterans.

GI housing loans won't cover purchases of any furniture or appliances that aren't part of the house itself.

Regulation W apparently isn't going to be lifted or modified as long as the supply of consumers durable and semi-durable goods stays far behind the heavy demand.

To relax its terms, the Federal Reserve board seems to feel, would boost competitive demands and the prices people would be forced to pay, without helping the employment and production that are the two factors working against inflation.

Even in the face of much money and few goods, according to a national survey summarized by Henry H. Villard, of the Federal Reserve System's division of research and statistics, the use of credit has gradually increased in the months since the war's unofficial ending.

Buying on credit represented 22% of the nation's business during 1944 and 1945, according to Mr. Villard's figures. The prewar average during 1939-1941 was 35%.

CREDIT BUYING STILL LOW

The increase to 22% since the war has been gradual, even in the strongholds of instalment buying—appliances, automobiles, and furniture. As a result, Mr. Villard points out, the credit increase has been spread over a wide range of goods and services. Inflation, while bubbling under the lid, hasn't blown it off.

Regulation W was set up in August, 1944, to make credit terms stiffer and thus keep wartime buying from going hog-wild. In the refrigeration industry, its list included air conditioners, whether room coolers or central systems; all major household appliances; and any mechanical refrigerators with rated capacities less than 12 cu. ft.

Instalment terms on all these were set at a minimum of one-third down and a maximum instalment time of 12 months. It also required all dealers handling any of these items to be registered with the Federal Reserve System.

There have been several amendments to the regulation since then, but none of them have changed the picture substantially for the refrigeration industry.

A MASTERSPIECE
in
Thirst-quenching Convenience

You're always sure with an Oasis-built by Eaco, pioneers in the electric water cooler field.
The EACO Mfg. Co.
401 W. Town St.
Columbus 16, Ohio

Amana
HOME FREEZERS

MODERN
• FREEZER-COOLERS
• HOME FREEZERS from
5 to 123 cu. ft. food capacity
• COOLERS
Refrigeration Division
AMANA SOCIETY
AMANA, IOWA

Stores Who 'Volunteered' Air Cooling Systems for War Work Get New Ones

NEW YORK CITY—Most of the department stores throughout the country who turned their air conditioning systems over to the government during the war, have been re-equipped and the remainder will be air conditioned within a few weeks, Carrier Corp. has announced.

In 1943, when the government desperately needed refrigerating equipment to speed up production of synthetic rubber and aircraft motors, federal officials approached leading stores throughout the country and asked to "draft" their cooling units. The government took this

step rather than interrupt the flow of vital equipment being turned out under contract by manufacturers of air conditioning equipment.

When taking units from the stores, the government promised them post-war priorities for replacement.

Stores already re-equipped include: Tiffany & Co., Gimbel's, Lord & Taylor, and McCreery's, all of New York City; Marshall Field of Chicago; Hudson's of Detroit; Sears-Roebuck of Washington, D. C.; Famous Barr of St. Louis; Municipal Auditorium of New Orleans; and Fox & Co. of Hartford, Conn.

Memphis Dept. Store Sells Frozen Foods

MEMPHIS, Tenn.—In preparation to opening a frozen food department, Goldsmith & Sons Co., large store here, recently launched an educational program to put housewives in a receptive mood and to teach them the proper handling of frozen foods in the home.

Dr. Harry Carlton, processing specialist of the University of Tennessee, was the first speaker and discussed the basic rules in preparation of frozen food and stressed the importance of careful packaging.

More than 400 women gathered in the Goldsmith auditorium to hear his lecture which was sponsored jointly

by the store, the Memphis Shelby County PTA, Federation of Women's Clubs, and locker representatives.

As soon as the items are available, Goldsmith & Sons will retail home freezers, and material for home freezing of foods, as well as commercially prepared frozen foods.

Elrod Heads Deepfreeze Sales In South

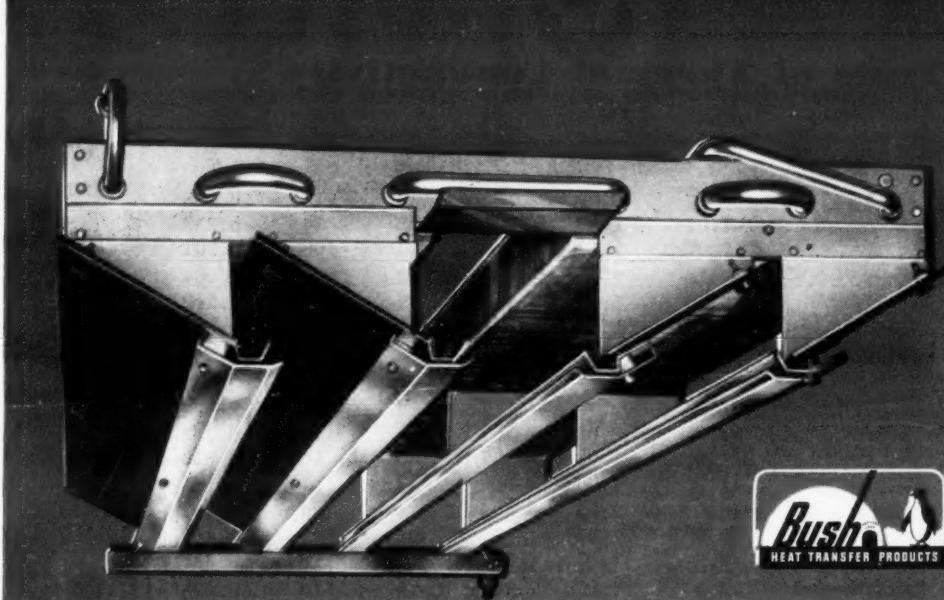
NORTH CHICAGO, Ill.—Thoben Elrod, formerly a district sales manager, has been promoted to regional sales manager of the southern region for Deepfreeze, it was announced by F. F. Duggan, general sales manager of the firm.

Mr. Elrod, who served in the navy during the war, will set up his headquarters in Atlanta.

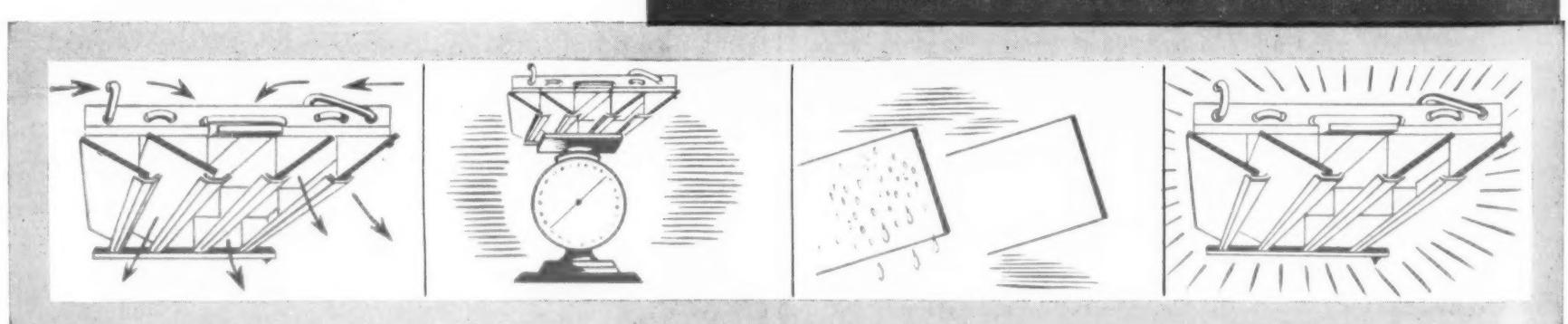


MECHANICAL SUPERIORITY MEANS GREATER DEPENDABILITY

There is a difference . . . and it lies mainly in the superiority that is engineered . . . designed . . . and built into every BUSH unit. The wide spread preference for BUSH Heat Transfer Products is a tribute to BUSH engineering, technical skill, planning and design. That is why thousands of BUSH units are giving reliable, constant, dependable service, day after day, year after year, often under the most severe conditions, the world over. BUSH mechanical superiority has established an enviable record of dependable performance unequalled in the industry.



BUSH PLASTI-COOLER



BUSH UNITS ARE SUPERIOR Because:

- Baffle pitch is scientifically engineered for proper circulation of air. Baffles made of gleaming jet-black plastic.
- Extremely light — BUSH engineering eliminates bulk and extra weight. Aluminum fins mean high efficiency — minimum weight.
- Sweating eliminated by specially designed baffles of gleaming plastic which prevent condensation of moisture on the underside.
- Handsome appearance. This gracefully designed unit enhances appearance of any walk-in or reach-in box. Easily installed.

HEAT TRANSFER PRODUCTS

HARTFORD, CONN. 415 LEXINGTON AVENUE, NEW YORK • 147 WASHINGTON BOULEVARD, CHICAGO EXPORT ADDRESS: 12 EAST 40TH STREET NEW YORK • CABLE "ARLAB"

